# APPENDIX E: COMPATIBILITY DETERMINATIONS

# INTRODUCTION

This set of compatibility determinations (CDs) evaluates uses as projected to occur under the Preferred Alternative 3 in the Draft EA for the Comprehensive Conservation Plan (Draft CCP/EA). The evaluation of funds needed for management and implementation of each use also assumes implementation as described under Alternative 3.

Chapter 4 of the Draft CCP/EA also contains analysis of the impacts of public uses to wildlife and habitats. That portion of the document is intended to be incorporated through reference into this set of CDs.

Uses that occur on the Columbia Plateau Trail (CPT) are not evaluated in these CDs. The CPT is managed by the Washington State Parks and Recreation Commission; the Refuge maintains a Cooperative Agreement with the State of Washington which allows for responses from the Service on issues related to law enforcement, weed management, and fire. Recreational uses that are allowed on the CPT (mostly bicycling, hiking, and equestrian activity) are outside the bounds of Service authority.

#### USES EVALUATED AT THIS TIME

The following section includes full CDs for all Refuge uses that are required to be evaluated at this time. According to Service policy, compatibility determinations will be completed with all newly proposed uses under a Comprehensive Conservation Plan. Existing wildlife-dependent recreational uses must also be re-evaluated and new CDs prepared during development of a CCP. According to the Service's compatibility policy, uses other than wildlife dependent recreational uses are not explicitly required to be re-evaluated in concert with preparation of a CCP unless conditions of the use have changed or unless significant new information relative to the use and its effects have become available, or unless the existing CDs are more than ten years old. However, the Service planning policy recommends preparing CDs for all individual uses, specific use programs, or groups of related uses associated with the proposed action. Given this, and the potential that some recently evaluated uses could occur in the proposed expanded area, we chose in this document to revise some recently prepared CDs.

Accordingly, the following CDs are included in this document for public review:

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	Use	Reason CD prepared Du	e for Re-Evaluation
E.1	Wildlife Observation and Photography	Existing wildlife dependent rec use	2020
E.2	Environmental Education and Interpretation	Existing wildlife dependent rec use	2020
E.3	Waterfowl Hunting	Proposed wildlife dependent rec use	2020
E.4	Elk Hunting	Proposed wildlife dependent rec use	2020
E.5	Bicycling, Jogging, and Cross-Country Skiing	Local conditions have changed	2015
E.6	Research	Existing CD ten years old	2015
E.7	Agricultural Practicies	To evaluate potential use in expanded a	rea 2015
E.8	Commercial Tree Harvest	To evaluate potential use in expanded a	rea 2015
E.9	Firewood Collecting	Existing CD ten years old	2015

#### COMPATIBILITY - LEGAL AND HISTORICAL CONTEXT

Compatibility is a tool Refuge managers use to ensure that recreational and other uses do not interfere with wildlife conservation - the primary focus of Refuges. Compatibility is not new to the Refuge System and dates back to 1918, as a concept. As policy, it has been used since 1962. The Refuge

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Recreation Act of 1962 (Recreation Act) directed the Secretary of Interior to allow only those public uses of Refuge lands that were "compatible with the primary purposes for which the area was established."

Legally, Refuges are closed to all public uses until officially opened through a compatibility determination. Regulations require that adequate funds be available for administration and protection of Refuges before opening them to any public uses. However, wildlife-dependent recreational uses (hunting, fishing, wildlife observation and photography, and environmental education and interpretation) are to receive enhanced consideration and cannot be rejected simply for lack of funding resources unless the Refuge has made a concerted effort to seek out funds from all potential partners. Once found compatible, wildlife-dependent recreational uses are deemed the priority public uses at the Refuge. If a proposed use is found not compatible, the Refuge manager is legally precluded from approving it. Economic uses that are conducted by or authorized by the Refuge also require compatibility determinations.

Under compatibility policy, uses are defined as recreational or economic/commercial or management use of the Refuge by the public or a non-Refuge System entity. Uses generally providing an economic return (even if conducted for the purposes of habitat management) are also subject to compatibility determinations. The Service does not prepare compatibility determinations for uses when the Service does not have jurisdiction over the use. Such examples might include: property rights vested in others; legally binding agreements exist; treaty rights by tribes etc. In addition, aircraft overflights, emergency actions, some activities on navigable waters, and activities by other Federal agencies on "overlay Refuges" are exempt from the compatibility review process.

New compatibility regulations, required by the National Wildlife Refuge System Improvement Act of 1997 (NWRSIA), were adopted by the Service in October, 2000 (<a href="http://refuges.fws.gov/policymakers/nwrpolicies.html">http://refuges.fws.gov/policymakers/nwrpolicies.html</a>). The regulations require that a use must be compatible with both the mission of the System and the purposes of the individual Refuge. This standard helps to ensure consistency in application across the Refuge System. The Act also requires that compatibility determinations be written and that the public have an opportunity to comment on most use evaluations.

The System mission emphasizes that the needs of fish, wildlife, and plants must be of primary consideration. NWRSIA defined a compatible use as one that "... in the sound professional judgement of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the Refuge." Sound professional judgement is defined under NWRSIA as "... a finding, determination, or decision, that is consistent with principles of sound fish and wildlife management and administration, available science and resources..." Compatibility for priority wildlife-dependent uses may depend on the level or extent of a use.

Court interpretations of the compatibility standard have found that compatibility is a biological standard and cannot be used to balance or weigh economic, political, or recreational interests against the primary purpose of the Refuge (Defenders of Wildlife v. Andrus [Ruby Lake Refuge I]).

The Service recognizes that compatibility determinations are complex. For this reason Refuge managers are required to consider "principles of sound fish and wildlife management" and "best available science" in making these determinations (House of Representatives Report 105-106). Evaluations of the existing uses on Turnbull NWR are based on the professional judgement of Refuge and planning personnel including observations of Refuge uses and reviews of appropriate scientific literature.

#### LITERATURE CITED

Defenders of Wildlife v. Andrus (Ruby Lake Refuge I). 11 Envtl. Rptr. Cases 2098 (D.D.C. 1978), p. 873.

House of Representatives Report 105-106 (on NWRSIA) - <a href="http://refuges.fws.gov/policyMakers/mandates/HR1420/part1.html">http://refuges.fws.gov/policyMakers/mandates/HR1420/part1.html</a>

New compatibility regulations, adopted by the Service in October, 2000: (http://refuges.fws.gov/policymakers/nwrpolicies.html).

# E.1 WILDLIFE OBSERVATION AND PHOTOGRAPHY COMPATIBILITY DETERMINATION

<u>Use:</u> Wildlife Observation, Wildlife Photography (Alternative 3)

**Refuge Name:** Turnbull National Wildlife Refuge, Spokane County, Washington

#### **Establishing and Acquisition Authorities:**

- Executive Order 7681, dated July 30, 1937
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended (16 U.S.C. 460k-460k-4)
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 7421]

#### **Refuge Purpose(s):**

- "... as a refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 7681, dated July 30, 1937)
- "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (16 U.S.C. 715d [Migratory Bird Conservation Act])
- "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ... "(16 U.S.C. 460k-1) ... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ... 16 U.S.C. 460k-2 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources ... "(16 U.S.C. 742f(a)(4) ... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ... 16 U.S.C. \(\times\) 742f(b)(1) (Fish and Wildlife Act of 1956).

<u>National Wildlife Refuge System Mission</u>: The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

<u>Description of Use</u>: Wildlife observation and wildlife photography are wildlife-dependent, non-consumptive uses with similar elements and so are considered together in this compatibility determination. Under the Preferred Alternative 3, the majority of wildlife observation and photography activities at the Refuge would occur within the Public Use Area and along the Columbia Plateau Trail. Some observation would occur along the Cheney-Plaza Highway, Cheney Spangle Highway and Mullinix Road as visitors pass by the Refuge. Visitors would engage in wildlife observation while walking trails or driving the auto tour route (or occasionally, while cross-country skiing or biking on the Refuge. Jogging, bicycling and cross-country skiing as specific uses on their own are treated separately in another CD.) This Compatibility Determination assesses effects from persons engaged in wildlife observation or photography while on foot or in a vehicle. At the current time, visitors are allowed to roam off-trail anywhere within the Public Use Area.

Existing facilities that are involved in these uses include: the auto tour route, all pedestrian trails on the Refuge, photo blinds, the entry fee station, and public restrooms. The auto tour route is 5.3 miles of graveled surface that runs through the heart of the Public Use Area. The auto tour route includes numerous pull-outs, parking areas with associated foot trails, and an accessible boardwalk with interpretive signs. Currently there are 7.75 miles of trails within the Public Use Area. In addition, visitors can access a 4.75 mile stretch of the Columbia Plateau Trail (CPT) that transects the Refuge near its western boundary (however, as explained in the Introduction above, uses occurring on the CPT are not analyzed in this CD due to lack of Service authority over that land).

New facilities proposed under Preferred Alternative 3 include the development of an additional 3.75 miles of pedestrian trails in the Public Use Area (the Public Use Area itself would also be enlarged). In addition, the Refuge would seek to develop four pullouts with developed viewpoints and interpretation on local county roads as described in Chapter 2 of the draft . The Preferred Alternative also proposes the development of additional photo/observation blinds at East Blackhorse Lake, Kepple Peninsula and along the CPT at Long Lake, and an elevated platform to be built at Stubblefield Lake. Visitors coming to view and photograph wildlife would also benefit from the substantial investment made in interpretive materials (signs), facilities and programs that are explored more fully under the Environmental Education / Interpretation CD.

Of the visitors arriving at the Refuge, more engage in wildlife observation and/or photography than any other use. In 2003, wildlife observation and photography visitation to the Refuge from non-student groups was approximately 20,000. Under Preferred Alternative 3, visitation numbers for these two uses are expected to rise, reaching approximately 30,000 by 2018. Visitation estimates are explained more fully in Chapter 4 of the CCP/EA. Approximately 20% of those coming to observe wildlife carry cameras and intend to photograph wildlife and wildlands. The most heavily used areas include trails and access points to Winslow Pool, Pine Lake, Blackhorse Lake, and Kepple Lake. The majority of use would occur on spring and summer weekends during the daytime.

Visitors are allowed to bring dogs but they must be kept leashed.

See Chapter 2 of the *Turnbull National Wildlife Refuge Draft Environmental Assessment for the Comprehensive Conservation Plan* for a detailed description of the use under the Preferred Alternative 3. Also see Map 5 for proposed locations and facilities of the use under Preferred Alternative 3 in Chapter 2 of the Draft CCP/EA. See Chapter 3 of the same document for a detailed description of the use at the current time.

This use is defined as a wildlife-dependent recreational use under the Improvement Act. See Implementation section (Appendix F of the Draft CCP/EA) to determine priority of projects associated with these uses as funding becomes available.

<u>Use Within the Proposed Expansion Area:</u> Chapter 2 of the draft CCP/EA identifies areas in which the Service would seek to acquire land from willing sellers outside of the current approved boundary [proposed Refuge expansion area]. Except for the Columbia Plateau Trail, which reaches beyond the Refuge to the northeast and to the southwest, there are no developed public wildlife observation, interpretation or photography facilities or sites located within the proposed Refuge expansion areas. Compatible wildlife observation, and photography could be allowed in the future expansion area in designated localities. Since we do not presently know which landowners may be willing sellers and which may not, we are not able to address specific uses in specific locations at this time. If lands are acquired, trails, pullouts, and signs supporting wildlife observation activities may be established, if determined compatible.

Availability of Resources: The following funds would be required to run a program as designed under the Preferred Alternative 3. The projected need represents an increase of approximately 300% in recurring expenses compared to current funding for this program. For the one-time expenses, all available sources would be investigated.

Activity or Project	One Time Expense	Recurring Expense
Design and construction of three photography blinds and elevated viewing platform	30,000	
Pedestrian trail development and accessibility improvements	154,000	
Development of pulloffs and viewpoints on county highways	250,000	
Screening and signing	5.000	
Maintenance of Public Use Facilities		50,000
Program Operation, Monitoring, and Law Enforcement		55,000
Totals	439,000	105,000

Offsetting revenues:

Annual Entrance fee receipts \$ 8,000 In kind services of volunteers \$ 50,000

Existing Refuge resources are not adequate to properly and safely administer the use as envisioned under the Preferred Alternative 3. To implement the use, the Refuge would pursue partnerships with appropriate cooperators and/or volunteers. Additional funds and in-kind services would be needed, especially to construct new facilities and upgrade facilities to Americans with Disabilities Act (ADA) standards.

# **Anticipated Impacts of the Use(s):**

# Wildlife Observation:

<u>Physical and habitat alteration</u>: The impact of these activities depends upon the size of the group(s), the season of use, the location within the Public Use Area, and the duration of the activity. The construction and maintenance of visitor use facilities (i.e. trails, observation points, photography blinds) would have some effect on soils, vegetation and possibly hydrology in specific areas. This could potentially increase erosion and cause localized soil compaction (Liddle 1975); reduced seed emergence (Cole and Landres 1995); alteration of vegetative structure and composition; and sediment loading (Cole and Marion 1988).

<u>Human disturbance - general</u>: The presence of people observing or photographing wildlife will also cause some impact to wildlife. Numerous studies have confirmed that people on foot can cause a variety of disturbance reactions in wildlife, including flushing or displacement (Erwin 1989; Fraser et al 1985; Freddy 1986), heart rate increases (MacArthur et al 1982), altered foraging patterns (Burger and Gochfeld, 1991), and even, in some cases, diminished reproductive success (Boyle and Samson 1985). These studies and others have shown that the severity of the effects depends upon the distance to the disturbance and its duration, frequency, predictability, and visibility to wildlife (Knight and Cole 1991). The variables found to have the greatest influence on wildlife behavior are a) the distance from the animal to the disturbance and b) the duration of the disturbance. Animals show greater flight response to humans moving unpredictably than to humans following a distinct path (Gabrielsen and Smith 1995).

Short term and immediate responses to disturbance are fairly simple to document. A question that has received less research attention is whether these short term responses, which generally require increased energetic expenditures on the part of the individual, ultimately diminish an individual or population's capacity to survive and breed successfully (fitness). Energetic demands of responding to disturbance events were measured by Belanger and Bedard (1989). In Quebec, they found that if disturbance was severe enough to cause the geese to fly and not resume feeding upon alighting, hourly energy expenditure increased by 3.4%; hourly metabolized energy intake decreased by 2.9 to 19.4%. A 32% increase in nighttime feeding was required to restore the energy losses incurred.

Wildlife are frequently more sensitive to disturbance from people on foot than in vehicles (Skagen 1980; Grubb and King 1991; MacArthur et al 1982).

<u>Disturbance from Dogs:</u> Dogs also elicit a greater response from wildlife than pedestrians alone (MacArthur et al 1982; Hoopes, 1993). In the case of birds, the presence of dogs may flush incubating birds from nests (Yalden and Yalden 1990), disrupt breeding displays (Baydack 1986), disrupt foraging activity in shorebirds (Hoopes 1993), and disturb roosting activity in ducks (Keller 1991). Many of these authors indicated that dogs with people, dogs on-leash, or loose dogs provoked the most pronounced disturbance reactions from their study animals.

Despite thousands of years of domestication, dogs still maintain instincts to hunt and chase. Given the appropriate stimulus, those instincts can be triggered. Dogs that are unleashed or not under the control of their owners may disturb or potentially threaten the lives of some wildlife. In effect, off-leash, dogs increase the radius of human recreational influence or disturbance beyond what it would be in the absence of a dog. Dog-walkers will be required to maintain control of their animal while on the Refuge, thereby reducing the potential and severity of these impacts to wildlife.

The role of dogs in wildlife diseases is poorly understood. However, dogs host endo- and ectoparasites and can contract diseases from, or transmit diseases to, wild animals. In addition, dog waste is known to transmit diseases that may threaten the health of some wildlife and other domesticated animals. Domestic dogs can potentially introduce various diseases and transport parasites into wildlife habitats (Sime 1999).

<u>Effect of disturbance intensity</u>: Some researchers have attempted to correlate disturbance events in wildlife to the intensity, proximity, or loudness of human disturbance. Burger (1986), studying shorebirds on an eastern coastal Refuge, found that the level of disturbance in the shorebirds increased (fewer remained, more flew) as the total number of disturbances and the number of children, joggers, people walking, dogs, aircraft, and boats increased, and the duration of the disturbance and distance from the disturbance decreased.

Effect of human proximity: Other researchers have looked at the question of proximity. At what distance do humans on foot elicit a disturbance response? From an examination of the available studies, it appears that the distance varies dramatically from species to species. Burger and Gochfeld (1991) found that sanderlings foraged less during the day and more during the night as the number of people within 100 m increased. Elk in Yellowstone National Park were disturbed when people were at average distances of 573 m (Cassirer, 1990). These elk temporarily left the drainage and their home range core areas and moved to higher elevations, steeper slopes, and closer to forested areas. Average return time to the drainage was 2 days. Erwin [1989] studied colonial wading and seabirds in Virginia and North Carolina. Mixed colonies of common terns-black skimmers responded at the greatest distances, with respective means of 142 and 130m; mixed wading bird species were more reluctant to flush (30-50 m average). There were few statistically significant relationships between flushing distance and colony size. Similarly, there were few differences between responses during incubation compared to post-hatching periods.

An analysis of over 4,000 human activity events near bald eagle nests in Central Arizona (Grubb and King 1991) found distance to disturbance to be the most important classifier of bald eagle response, followed in decreasing order of discriminatory value by duration of disturbance, visibility, number of units per event, position relative to affected eagle, and sound.

Breeding bald eagles in north-central Minnesota (Fraser et al 1985) flushed at an average distance of 476 m at the approach of a pedestrian. A multiple regression model including number of previous disturbances, date and time of day explained 82% of the variability in flush distance and predicted a maximum flush distance at the first disturbance of 503 m (SE=131). Skagen (1980), also studying bald eagles in northwest Washington, found a statistically significant decrease in the proportion of eagles feeding when human activity was present within 200 m of the feeding area in the previous 30 minutes. A statistically significant between-season variation occurred in the use of feeding areas relative to human presence, which correlated with food availability. Eagles appeared more tolerant of human activity in the season of low food availability.

In a review of several studies of the reaction of waterfowl and other wetland birds to people on foot, distances greater than 100 meters in general did not result in a behavioral response (DeLong 2002).

Effects on migrant birds versus resident birds: Klein (1989) studied the effect of visitation on migrant and resident waterbirds at Ding Darling National Wildlife Refuge, finding that resident birds were less sensitive to human disturbance than migrants. Migrant ducks were particularly sensitive when they first arrived on site in the fall. They usually remained more than 80 m from [a visitor footpath on a dike], even at very low visitor-levels. Herons, egrets, brown pelicans, and anhingas were most likely to

habituate to humans, thus exposing them to direct disturbance as they fed on or near the dike. Shorebirds showed intermediate sensitivity. Strauss (1990) observed piping plover chicks spent less time feeding (50% versus 91%) and spent more time running (33% versus 2%), fighting with other chicks (4% versus 0.1%), and standing alert (9% versus 0.1%) when pedestrians or moving vehicles were closer than 100 m than when they were undisturbed. In addition plover chicks spent less time out on the feeding flats (8% versus 97%) and more time up in the grass (66% versus 0.1%) during periods of human disturbance.

*Wildlife Photography*: Wildlife photography is likely more disturbing, per instance, than wildlife observation. Klein (1993) observed at Ding Darling NWR, that of all the non-consumptive uses, photographers were the most likely to attempt close contact with birds, and that even slow approach by photographers disrupted waterbirds.

Dwyer and Tanner (1992) noted that wildlife habituate best to disturbance that is somewhat predictable or "background". Investigating 111 nests of sandhill cranes in Florida, Dwyer and Tanner found that nesting cranes seemed to habituate to certain forms of human disturbance and nested within 400 m of highways, railroads, and mines; cranes also were tolerant of helicopter flyovers. Even so, investigator visits to nests and development-induced alterations of surface water drainage were implicated in 24% of the nest failures.

Summary: Effect at Turnbull: Both Refuge visitation and the number of facilities devoted to wildlife observation and photography are projected to increase under the Preferred Alternative 3 (viewpoints, observation blinds, trail miles). Given this, future disturbance effects are likely to be somewhat higher than present. Most studies cited above have demonstrated immediate, rather than long term, responses to disturbance. Long term responses are inherently more difficult and expensive to determine. Given that wildlife observation and activity is not typically a loud or intense kind of activity, the area of habitat within a known distance of human activity centers (Public Use Area, trails, EE sites, viewpoints) is considered a reasonable indicator to evaluate the disturbance effects of public uses on Refuge wildlife. This analysis is presented within Chapter 4, Section 4.1 of the Draft CCP/ EA. According to this analysis, the maximum percent of total habitat by category expected to be affected by public use activities under the Preferred Alternative 3 is: pine forest: 2.6%; aspen: 4.1%; steppe: 13.5%; and wetlands 11.4%.

Anecdotally, Turnbull NWR staff have noted that most of the Refuge elk sightings occur outside the Public Use Area, indicating the elk are disturbed by the human presence there and avoid human contact by staying in the more secluded portions of the Refuge. This is likely to change once hunting is initiated on the Refuge; elk will be more likely to avoid the higher risk hunting areas and to move into the Public Use Area and other no-hunting zones on and off the Refuge.

Wildlife observation and photography may impact threatened and endangered species, including Spalding's silene and bald eagle. Impact to the silene populations are expected to be minimal. Disturbance impacts to the bald eagle would be expected to increase, but could be reduced to a certain extent through the design of public use facilities. See Section 4.1.7 of the Draft CCP/EA for further discussion of the effects of this use on threatened and endangered species.

Impacts from wildlife observation / photography, and the modes of transport used by visitors engaged in these activities, can be contained most effectively, mitigating the overall effect on Refuge wildlife, by ensuring that visitors remain on trails and within the areas designated for public use. This strategy (containing visitor use to trails) will be implemented under Preferred Alternative 3. Enforcement will be required to ensure that visitors follow the new on-trail-only rule. The Refuge is aware that some visitors

already disregard signs along the Columbia Plateau Trail requiring visitors to stay on the trail. These visitors leave the trail and make unauthorized routes to get closer to the lakes and wetlands nearby. Such events create greater disturbance to wildlife than that expected to occur from use of the trails themselves. It also contributes to direct damage of some habitat.

Public education that informs photographers of ethical and least intrusive methods is proposed under all alternatives and could reduce some impacts. Three new photo blinds are proposed in under Preferred Alternatives 3. The purpose of these photo blinds is to provide a site where photographers can get close-up photographs without disturbing wildlife. Placement of these additional blinds would likely reduce disturbance from wildlife photographers.

Although disturbance to wildlife from these activities will be higher than at present, we anticipate that the overall effect to the Refuge wildlife will still be minimal, being mostly dealt with at the outset by being contained within trails and other public facilities only within the Public Use Area and on the Columbia Plateau Trail.

Anticipated Impacts of the Use within the Proposed Expansion Area: If and when the Refuge acquires land within the expansion area, there could be opportunities for compatible wildlife observation and/or wildife photography. Due to the similarity of species and habitats with current Refuge owned lands, this use would be anticipated to have impacts similar to those described for current Refuge owned lands. If the Refuge manager determines that those opportunities would substantially change the conditions under which this use was found compatible, or that there is new, substantive information regarding the effects of the use, this CD would need to be re-evaluated.

**Public Review and Comment**: Public review and comments will be solicited in conjunction with the CCP/EA in order to comply with the National Environmental Policy Act and with Service policy.

# $\underline{\textbf{Determination}}:$

	Use is Not Compatible
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X	Use is Compatible With Following Stipulations

# **Stipulations Necessary to Ensure Compatibility**:

#### User Stipulations:

- Visitors will be required to stay on trails and designated roadways throughout the year.
- Use is restricted to daylight hours only.
- Pets must be kept leashed at all times.

## Administrative stipulations:

- Allowing the use as described in Preferred Alternative 3 is contingent upon finding the full funding to properly manage and administer the use. However, if funds are short for construction of facilities associated with this use, that should not be construed as invalidating the compatibility of the use overall.
- At least 50% of the Refuge will be managed as wildlife sanctuary free from routine human disturbance.
- Where feasible native trees and shrubs will be planted to create screening along trails and at observation points to reduce disturbance.

- Elevated observation platforms, accessible trails, and boardwalks will be designed to help reduce negative visitor impacts to soils, vegetation and hydrology.
- Regulations will be available to the public through a Refuge brochure.
- Directional, informational and interpretive signs will be posted and maintained to help keep visitors on trails and help educate the public on minimizing wildlife and habitat disturbance.
- Monitor human use levels by activity and evaluate impacts of increased human uses on Refuge.

<u>Justification</u>: Wildlife observation and photography are two of the six wildlife-dependent recreational uses of the National Wildlife Refuge System as stated in the National Wildlife Refuge System
Improvement Act of 1997. By limiting these activities to a small percentage of the Refuge and by usually providing wildlife sanctuary from human disturbance in other areas of the Refuge, these programs will not interfere with the Refuge achieving its purposes of providing *sanctuary* and a *breeding ground for migratory birds and other wildlife*. These uses contribute to the purpose of *wildlife-oriented recreational development*. Although there are impacts from these activities, the wildlife observation, interpretation, and photography programs complement the Refuge purpose, vision and goals and the NWRS Mission.

<u>Mandatory Re-Evaluation Date</u> (provide month and year for "allowed" uses only):
X Mandatory 15-year Re-Evaluation Date (for priority public uses) Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)
NEPA Compliance for Refuge Use Decision (check one below):
Categorical Exclusion without Environmental Action Statement Categorical Exclusion and Environmental Action Statement Environmental Assessment and Finding of No Significant Impact Environmental Impact Statement and Record of Decision

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Prepared by (signature)	Date
Refuge Manager/Project Leader Approval (signature)	Date
Concurrence	
Refuge Supervisor (signature)	Date
Regional Chief National Wildlife Refuge System (signature)	

# E.2 ENVIRONMENTAL EDUCATION AND INTERPRETATION COMPATIBILITY DETERMINATION

**Use:** Environmental Education and Interpretation (Alternative 3)

**Refuge Name:** Turnbull National Wildlife Refuge, Spokane County, near Cheney, Washington

**Signatures:** 

#### **Establishing and Acquisition Authorities:**

- Executive Order 7681, dated July 30, 1937
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended (16 U.S.C. 460k-460k-4)
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 7421]

#### **Refuge Purpose(s):**

- "... as a Refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 7681, dated July 30, 1937)
- "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (16 U.S.C. 715d [Migratory Bird Conservation Act])
- "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." (16 U.S.C. 460k-1) ... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ... 16 U.S.C. 460k-2 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources ... "(16 U.S.C. 742f(a)(4) ... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ... 16 U.S.C. XXX 742f(b)(1) (Fish and Wildlife Act of 1956).

<u>National Wildlife Refuge System Mission</u>: The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

<u>Description of Use:</u> Environmental Education (EE) consists of educational activities conducted by Refuge staff, volunteers, partners and teachers. EE themes pertain to the Refuge, the NWRS, wildlife and their habitats and the human environment. The EE program goal is to foster an understanding of and appreciation for resource management, to broaden understanding of the human impacts on wildlife habitats, and to encourage active participation in resource protection. Between 3,000 - 8,000 students are currently served each year by the Refuge's EE program.

Interpretation occurs in less formal activities (i.e. infrequently scheduled tours or casual talks) conducted by Refuge staff or volunteers. Interpretive material is also available to visitors through exhibits (mostly found in the EE classroom), signs and brochures.

Environmental education currently occurs within the 2,200-acre Public Use Area at four outdoor designated sites and in the EE classroom. Under Preferred Alternative 3, the Refuge proposes improving each of these sites as well as expanding the EE classroom. Each EE site would eventually consist of a shelter, vault toilet, parking facilities for bus and car, and an activities trail.

With a full time environmental education staff person, seasonal help, and volunteers, the Refuge could host approximately 10,000 students per year. The students would be engaged in education activities using curricula approved and/or designed by Refuge staff and reviewed by teachers. EE use of the

Refuge would be most intensive during spring (mid April - mid June) and fall (mid September - mid November).

Interpretive materials are not widely available now on the Refuge, with the exception of signs and/or markers on three interpretive trails. The Columbia Plateau Trail Interpretive panels would be developed following plans laid out in the Refuge's Interpretive Prospectus (under development) and as described for the Preferred Alternative 3 in Chapter 2. Panels would be established at various pullouts, trails, and observation points within the Public Use Area and at four county highway pullouts. The Friends of Turnbull NWR are developing an interpretive brochure for the Kepple Peninsula trail that interprets various features, habitats and wildlife that can be observed along the trail. Seasonal public use staff will also be available for some guided tours/hikes within the Public Use Area. These guided interpretive activities will most likely occur in summer when heavier public use occurs and be provided to such requesting groups as Boy Scouts, Girl Scouts, senior citizen groups, etc. An interpretation exhibit area would be designed in concert with new office space to be constructed sometime over the next fifteen years. Chapter 2 of the Draft CCP/EA provides additional details regarding the EE and interpretation programs. Also see Map 5 for proposed locations and facilities of the use under Preferred Alternative 3 in Chapter 2 of the Draft CCP/EA.

Environmental education and interpretation are both defined as wildlife-dependent recreational uses under the Improvement Act. See Implementation section (Appendix F of the Draft CCP/EA) to determine priority of projects associated with these uses as funding becomes available.

<u>Use Within the Proposed Expansion Area:</u> Chapter 2 of the draft CCP/EA identifies areas in which the Service would seek to acquire land from willing sellers outside of the current approved boundary. There are no developed public environmental education centers or sites within the expansion area. Since land acquisition within an expanded boundary is an unknown quantity, we are not able to address specific environmental education uses in specific locations at this time. Due to transportation and field site logistics (all classes now make a visit to the EE classroom as part of their learning experience) it is unlikely that environmental education activities would be expanded onto lands outside the existing Public Use Area and the Eastern Washington University Turnbull Lab for Ecological Studies.

Availability of Resources: The following funds would be required to run a program as designed under the Preferred Alternative 3. The projected need represents an increase of approximately 65% in recurring expenses compared to current funding for this program. For the one-time expenses, all available sources would be investigated.

Activity	One Time Expense	Recurring Expense
Construct and outfit EE classroom addition	\$ 430,000	
Operate & maintain classroom		\$ 12,500
Staff classroom		\$71,000
Install and maintain EE shelters (3)	\$ 51,000	\$ 1,000
Design and construction of office with visitor contact area:	\$1,500,000	
Operate and maintain office/visitor contact area		\$35,000
Interpretive exhibits and outfitting for visitor contact area	\$ 300,000	\$ 2,000

Interpretive panels and structures	\$ 96,000	\$ 500
Harden EE sites, construct piers, and plant screening vegetation	\$ 5,000	\$ 500
Totals	\$2,382,000	\$122,500

Offsetting revenues: Currently Friends of Turnbull NWR are donating approximately \$6,000 annually to support Environmental Education facilitator stipends. They are attempting to build an endowment fund that could eventually contribute to annual support for a full-time Environmental Education Coordinator as well as up to two Environmental Education facilitators. There are also annual in-kind services donations equal to 5200 volunteer hours and valued at \$80,000. These are expected to continue in the future at approximately this level or higher.

Existing Refuge resources are not adequate to properly and safely administer the use as envisioned under the Preferred Alternative 3. To implement the use, the Refuge would pursue partnerships with appropriate cooperators and/or volunteers. Additional funds and in-kind services would be needed.

Anticipated Impacts of the Use(s): Impacts from environmental education activities at Turnbull NWR occur mostly in the area of Pine Creek, where school groups concentrate to conduct pond and stream studies. Impacts observed include: trampling of vegetation, disturbance to nesting birds, and disturbance to feeding or resting birds or other wildlife in the proximate vicinity. An unpublished study (Jose, 1997) examined the effect of EE site activities at Blackhorse Lake on the Turnbull Refuge. The study was designed to compare waterfowl presence and behavior patterns between the times when EE activities were occurring and when EE classes were not on-site. The study results indicated that fewer waterfowl were present in the study area when EE classes were on site as compared to the control times. The study also found more short flights undertaken by birds when EE classes were on site. Redheads displayed the highest number of flight responses, followed by mallards. Ruddy ducks almost never flew but had the highest increase in directional swimming away from the EE classes. The study author recommended that sites heavily used by smaller bodied birds, such as ruddy ducks, buffleheads, and teals, not be used as environmental education sites.

Effects from the EE program are thus similar in type to effects from wildlife observation and photography activities (see Wildlife Observation and Photography CD). In addition to wildlife disturbance, EE activity will result in some trampling of vegetation. With the growth of the environmental education program, future effects can be expected to be higher than present. Although public uses, including environmental education, do have a certain detrimental impact on Refuge habitats and wildlife, the effect is mostly reduced at the outset by being contained within the Public Use Area, and within this area, to the four designated field study sites. Currently, approximately 85% of the existing Refuge is off-limits to year-round public use. After implementation of preferred Alternative 3, about a third of the total Refuge will be open seasonally to elk hunting, and about 20% of the Refuge will be open to year round public use. About fifty percent of the Refuge will remain closed to public use.

This use may impact threatened and endangered species, including Spalding's silene and bald eagle. Impact to the silene populations are expected to be minimal. Disturbance impacts to the bald eagle would be expected to increase, but could be reduced to a certain extent through the design of public use facilities. See Section 4.1.7 of the Draft CCP/EA for further discussion of the effects of this use on threatened and endangered species.

<u>Anticipated Impacts of the Use</u> <u>within the Proposed Expansion Area:</u> At this time, no impacts within the proposed expansion area are anticipated, since the environmental education and interpretation program would not occur outside of the current Public Use Area.

<u>Public Review and Comment</u>: Public review and comments will be solicited in conjunction with the draft CCP/EA for Turnbull NWR in order to comply with the National Environmental Policy Act and with Service policy. Following the public review and comment period, comments and actions taken to address comments will be summarized here.

<u>Determination</u> :			
	Use is Not Compatible		
X	Use is Compatible With Following Stipulations		

## **Stipulations Necessary to Ensure Compatibility:**

# User Stipulations:

- Advance reservations required for groups participating in environmental education activities.
- All groups will be instructed in trail etiquette and ways to reduce wildlife and habitat disturbance during their welcome session.
- Students/visitors will be required to stay on trails within the four Environmental Education Study Sites.
- Wetland/pond activities are limited to designated sites within the four Environmental Education Study sites.
- Groups will provide their own drinking water and carry out all their own garbage.
- Students and teachers will be encouraged to participate in stewardship activities including habitat restoration or monitoring.

# Administrative stipulations:

- Allowing the use as described in Preferred Alternative 3 is contingent upon finding the full funding to properly manage and administer the use. However, if funds are short for construction of facilities associated with this use, that should not be construed as invalidating the compatibility of the use overall.
- The Refuge will conduct yearly workshops to "teach the teachers" trail etiquette, minimizing wildlife disturbance, and how to facilitate their own field trips.
- An effort will be made to spread out use by large groups while reservations are made, reducing disturbance to wildlife and overcrowding of Refuge facilities during times of peak demand.
  - A maximum of 70 students will conduct EE activities per study site per day and no more than 35 students shall be at a study site at one time.
  - ✓ Only three of the four study sites will be used on any one day; the fourth site will be rested.
  - ✓ No single study site will be used more than four days/week.
  - The classroom can be used up to seven days/week for activities, both daytime and evening, pending staff resources.
- The EE classroom and at least one study site will be accessible to all visiting public, including disabled citizens.
- Signs, pamphlets, and verbal instructions from Refuge staff and volunteers will promote appropriate use of trails, boardwalks, and platforms to minimize wildlife and habitat disturbance.

- Periodic monitoring and evaluation of sites and programs will be conducted to assess if objectives (see chapter 2 of the draft CCP/EA) are being met and the resource is not being unacceptably degraded.
- At least 50% of the Refuge will be managed as wildlife sanctuary where human disturbance is infrequent.
- Where feasible, native trees and shrubs will be planted to create screening along trails and at observation points to reduce disturbance.
- EE sites will be hardened and piers constructed to facilitate aquatic studies and to help reduce negative visitor impacts to soils, vegetation and hydrology.
- Regulations will be available to the public through a Refuge brochure.
- Directional, informational and interpretive signs will be posted and maintained to help keep visitors on trails and help educate the public on minimizing wildlife and habitat disturbance.
- Any new construction related to the EE program shall ensure that facilities are sited either 328 feet from wetlands or out of view of any wetland wildlife.

<u>Justification</u>: Environmental Education and Interpretation contribute to the mission of the National Wildlife Refuge System by providing wildlife-oriented educational and recreational benefits to Americans. Environmental Education and Interpretation are two of the six wildlife-dependent recreational uses of the National Wildlife Refuge System as stated in the National Wildlife Refuge System Improvement Act of 1997. By limiting the numbers of students/groups as well as always providing sanctuary from human disturbance in other areas of the Refuge, these programs will not interfere with the Refuge achieving its purposes of providing *sanctuary* and a *breeding ground for migratory birds and other wildlife* and they contribute to the purpose of *wildlife-oriented recreational development*. Environmental Education and interpretation are also an important part of the Turnbull NWR vision and goals.

<u>Mandatory Re-Evaluation Date</u> (provide month and year for "allowed" uses only):
X Mandatory 15-year Re-Evaluation Date (for priority public uses) Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)
NEPA Compliance for Refuge Use Decision (check one below):
Categorical Exclusion without Environmental Action Statement Categorical Exclusion and Environmental Action Statement Environmental Assessment and Finding of No Significant Impact Environmental Impact Statement and Record of Decision
Literature Cited:
Jose, J. 1997. Evaluation of the Effect of Environmental Education Classes on Waterfowl Behavior. Unpublished report. Biology 454 class, Eastern Washington University, Cheney, Washington
Signatures:
Prepared by (signature) Date

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Refuge Manager/Project Leader Approval	(signature)	Date	
Concurrence			
Refuge Supervisor (signature)		Date	
Regional Chief, National Wildlife Refuge System	n (signature)	Date	

# E.3 WATERFOWL HUNTING COMPATIBILITY DETERMINATION

<u>Use</u>: Waterfowl Hunting (Alternative 3)

Turnbull NWR Draft CCP / EA - June. 2005

Refuge Name: Turnbull National Wildlife Refuge, Spokane County, near Cheney, Washington

# **Establishing and Acquisition Authorities:**

- Executive Order 7681, dated July 30, 1937
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended (16 U.S.C. 460k-460k-4)
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 7421]

#### **Refuge Purposes:**

- "... as a Refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 7681, dated July 30, 1937)
- "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (16 U.S.C. 715d [Migratory Bird Conservation Act])
- "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." (16 U.S.C. 460k-1) "... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ..." 16 U.S.C. 460k-2 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources ..."(16 U.S.C. 742f(a)(4) "... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ..." 16 U.S.C.  $\square$  742f(b)(1) (Fish and Wildlife Act of 1956).

<u>National Wildlife Refuge System Mission</u>: The mission of the National Wildlife Refuge System is "...to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

Description of Use: Turnbull NWR lands currently are not open to waterfowl hunting. Under Preferred Alternative 3, the US Fish & Wildlife Service proposes a 2-day youth waterfowl hunt in late September within the boundaries of Turnbull NWR. This alternative would open approximately 140 acres of wetlands and associated shoreline each year to waterfowl hunting. The proposed waterfowl hunting area is the north side of Upper Turnbull Slough. Hunting areas would be posted with signs. Hunting would be allowed consistent with annual State hunting regulations. Hunter numbers would be limited to two with an adult supervisor per spaced hunting site. Youths must be accompanied by an adult. By spacing hunters at least 300 yards apart we are estimating there would be sites available for six to eight hunting blinds across Upper Turnbull Slough. Under this scenario, we envision the Refuge accommodating approximately 6-16 youth hunters per day. No construction of permanent facilities will be made except for spaced numbered posts noting designated hunting blind. Dogs will be allowed for retrieval, however they must be under control of the hunter at all times. Should an additional 300+ acres of restored wetland be added to the Refuge through acquisition or conservation easement in the identified Stewardship Area, the US Fish and Wildlife Service would consider expanding the waterfowl hunt on the existing Refuge into the regular state waterfowl season. Under this scenario, we envision the Refuge accommodating approximately 24-36 hunters per day. The waterfowl season would last anywhere from 3 weeks to 3 months depending upon the season/freeze up. See description of the proposed use in Chapter 2 of the Draft CCP/EA. Also see Map 5 for proposed locations and facilities of the use under Preferred Alternative 3 in Chapter 2 of the Draft CCP/EA.

This use is defined as a wildlife-dependent recreational use under the Improvement Act. See Implementation section (Appendix F of the Draft CCP/EA) to determine priority of projects associated with these uses as funding becomes available.

<u>Use Within the Proposed Expansion Area:</u> Waterfowl hunting currently occurs within some portions of the proposed Refuge expansion area. Philleo Lake is one area within the proposed expansion that currently receives waterfowl hunting from a private duck club. There are no public lands that support waterfowl hunting within the expansion area at this time.

Compatible waterfowl hunting could be allowed in the future expansion area in designated localities if large enough blocks are added. Since we do not presently know which landowners may be willing sellers and which may not, we are not able to address future hunting use in specific locations at this time. However, if Philleo Lake is acquired, waterfowl hunting could be permitted at this area, under similar program management and stipulation features as waterfowl hunts permitted on the Refuge.

Availability of Resources: The following funds would be required to run a program as designed under Alternative 3 with a 2-day youth hunt. Currently, no funds are being expended on this program, so the funds below represent all new funding needs. For the one-time expenses, all available sources would be investigated.

Activity	One Time Expense	Recurring Expense
Development and Administration of Hunt Plan and associated documentation	\$ 10,000	\$500
Placement and maintenance of signs	\$ 1,000	\$ 500
Law Enforcement Staffing	0	\$1,200
Biological staff to monitor hunt program	0	\$1,200

Offsetting revenues: Hunt permit fees

\$240-\$480 (@\$10/hunter per day)

Anticipated Impacts of the Use(s): The direct effect of hunting on waterfowl is mortality, wounding, and disturbance.

Effect on distribution and use of habitat: Belanger and Bedard (1995) concluded that disturbance caused by hunting can modify the distribution and use of various habitats by birds (Owens 1977; White-Robinson, 1982; Madsen 1985). In Denmark, Madsen (1995) experimentally tested disturbance effects of hunting by the establishment of two experimental reserves where hunting activity was manipulated such that sanctuary areas were created in different parts of the study area in different hunting seasons. In both areas, waterbird numbers increased, most strongly in hunted species (3-40 fold increase), with highest densities found in sanctuary areas, irrespective of where these sanctuaries were sited. At Sacramento National Wildlife Refuge, in California, researchers found statistically significant differences in the densities of northern pintails among hunting units, units adjacent to hunting units, units adjacent to auto tour route, and units isolated from disturbance (Wolder 1993). Prior to the opening of hunting season, pintail used units in proportion to their availability, indicating no preference to particular areas. During the hunting season, 50-60% of the pintails on the Refuge were located on the isolated units that contained 26-28% of the Refuge wetlands, suggesting a strong waterfowl preference for areas of little human activity. Units along the auto tour route and adjacent to hunting units maintained pintails at similar proportions to their availability. Three to sixteen percent of the pintails on the Refuge were located on hunted units (36-40% of the available habitat) during non-hunt days (4 days per week) and almost entirely absent on days when hunting was taking place, indicating an avoidance of the hunted areas.

Belanger and Bedard (1989) studied the effect of disturbances to staging greater snow geese in a Quebec bird sanctuary over 471 hours of observation. They found that the level of disturbance (defined as any event causing all or part of the goose flock to take flight) that prevailed on a given day in fall influenced goose use of the sanctuary on the following day. When disturbance exceeded two events per hour, it produced a 50% drop in the mean number of geese present in the sanctuary the next day.

Effects on energetics and survival: Hunting limits access of waterfowl to food resources and may modify migration timing. Madsen (1988 as cited by Dalgren and Korschgen 1992) suggested that hunting on the coastal wetlands of Denmark modified waterfowl movements and caused birds to leave the area prematurely. However, Kahl (1991) suggested that lack of adequate access to food may decrease survival of canvasbacks by causing birds to remain on a staging site longer and forage under suboptimal conditions, or by causing birds to migrate in shorter flights with more frequent stops.

Disturbance due to hunting has caused waterfowl to cease feeding or resting activities, thus decreasing energy intake and increasing energy expenditure. At Chincoteage NWR, Morton et al (1989a) found that wintering black ducks experienced reduced energy intake while doubling energy expenditure by increasing the time spent in locomotion in response to disturbance. Belanger and Bedard (1995) in a quantitative analysis, estimated that neither the response to disturbance by flying away and promptly returning to the foraging site to resume feeding, nor the response of flying away (leaving the foraging site for a roosting site - thus interrupting feeding) allowed snow geese to balance their daytime energy budget. At high disturbance rates (>2/hour - these included hunting and transport related disturbance), Belanger and Bedard estimated that an increase in night feeding as a behavioral compensation

mechanism could not counterbalance energy lost during the day. Likewise, geese could not compensate for a loss in feeding time by increasing their daily foraging behavior to maximize food intake during undisturbed periods. Belanger and Bedard suggested mitigation with spatial or temporal buffer zones.

Considerations for design of hunt units: Fox and Madsen (1997) found that mobile hunting activity close to roosting and or feeding areas is more disturbing than hunting from fixed points or where birds are shot moving between such areas. For sanctuary areas, they recommended areas with regular shape, maximum practicable size, and with a diameter of three times the escape flight distance (at a minimum) of the most sensitive species present. Flock size also affects flush distance, larger flocks tending to react at a greater distance. Based on estimated flight distances from boats, Kahl (1991) recommended that sanctuaries should be at least 1.5-2.0 km square and encompass as much of a feeding area as feasible.

This use may impact threatened and endangered species, including Spalding's silene and bald eagle. Impact to the silene populations are expected to be minimal. Disturbance impacts to the bald eagle would be expected to increase, but could be reduced to a certain extent through the design of public use facilities. See Section 4.1.7 of the Draft CCP/EA for further discussion of the effects of this use on threatened and endangered species.

Impacts to other wildlife-dependent recreational uses: Hunting (especially gunshot noise) has the potential to disturb Refuge visitors engaged in other wildlife-dependent recreational uses. To minimize this potential conflict, the Refuge has designated defined hunting areas that would be separated spatially from the Public Use Area and the Columbia Plateau Trail. See Map for Alternative 3 in Chapter 2 of the Draft CCP/EA.

<u>Summary and application to Turnbull NWR</u>: The studies cited above display the variety and scale of negative impacts to waterfowl from hunting. In full consideration of these studies, a youth waterfowl hunting program at Turnbull, were it to be implemented as envisioned under Alternative 3, is not expected to have a major effect on Refuge waterfowl populations. The most likely effect would be a shift in waterfowl populations away from hunted areas to non-hunted areas on the Refuge. Total fall wetland habitat available to waterfowl at the present time is estimated at 800 acres. Under Alternative 3, approximately 17.5% of the existing fall Refuge wetland base would be open to waterfowl hunting. Hunters would be limited to 25 shells per day per hunter, with non-toxic shot permitted only.

By its very nature, waterfowl hunting has very few if any positive effects on waterfowl and other birds while the activity is occurring, but it is well recognized that this activity has given many people a deeper appreciation of wildlife and a better understanding of the importance of conserving their habitat, which has ultimately contributed to the Refuge System mission. At Turnbull NWR, efforts would be made to ensure that hunting impacts would be minimal, by restricting the hunt to a two day youth, and requiring hunting from a limited number of fixed spaced hunting sites.

Anticipated Impacts of the Use within the Proposed Expansion Area: A block of lands would have to be acquired, sufficient in size to support a quality hunt program and sanctuary area, before a hunt program could be initiated. Staffing would also have to increase to adequately manage and enforce the hunt program. Preliminary stipulations that would have to be met before a waterfowl hunting program could be implemented in the expansion area include:

1) There is no significant indirect, direct, or cumulative threat anticipated to human health or safety;

- 2) There is no significant indirect, direct, or cumulative threat anticipated to natural or cultural resources:
- The use is consistent with management of existing Turnbull NWR lands and would contribute to achieving Refuge goals;
- 4) The newly acquired lands represent a meaningful unit within which to manage the activity; and
- 5) There are no significant anticipated conflicts with other wildlife-dependent recreational uses.

If and when the US Fish & Wildlife Service acquires land within the expansion area, there could be opportunities for compatible waterfowl hunting. Due to the similarity of species and habitats with current Refuge owned lands, this use would be anticipated to have impacts similar to those described for current Refuge owned lands. If the Refuge manager determines that those opportunities would substantially change the conditions under which this use was found compatible, or that there is new, substantive information regarding the effects of the use, this CD would need to be re-evaluated.

<u>Public Review and Comment</u>: Public review and comments will be solicited in conjunction with the release of the Draft CCP/EA. Substantive comments will be addressed along with others in any necessary revisions of the CCP before publication of a Final CCP. in order to comply with the National Environmental Policy Act and with Service policy. Public review of a step down Hunt Plan (see Stipulations) as required under Service policy would be conducted before opening the Refuge to hunting.

# **Determination**:

	Use is Not Compatible
X	Use is Compatible With Following Stipulations

#### **Stipulations Necessary to Ensure Compatibility:**

#### User stipulations:

- Hunters must obey all state and federal hunting regulations.
- Daily limit of 25 shells per hunter, non-toxic shot only.
- Hunting permitted from stationary posted spaced hunting sites only.
- Hunting limited to the early fall two day Youth Waterfowl Hunting season.
- Hunting dogs will be under hunter control at all times.
- Before expanding the waterfowl hunt to the regular state hunting season, an additional 300+ acres of wetlands shall be restored in the Stewardship area surrounding the Refuge.

#### Administrative stipulations:

- Allowing the use as described is contingent upon finding the full funding to properly manage and administer the use.
- Prior to opening of a hunt, a complete Hunting Plan package (Hunting Plan, NEPA documentation, state concurrence, Section 7 ESA consultation, and Federal register regulations,) will be completed as required under Refuge System policy. Hunting will not be allowed until regulations allowing hunting have been published in the Federal Register.
- The US Fish & Wildlife Service would install 6-8 stationary blinds spaced at least 300 yards apart to minimize crowding.
- Hunt areas would be well separated from other public use areas of the Refuge.

- Hunt areas and no hunting zones would be well posted.
- Refuge staff would issue hunt permits, conduct law enforcement, maintain hunting facilities, and monitor wildlife impacts.

<u>Justification</u>: Waterfowl hunting at Turnbull NWR as described in this CD contributes to the mission of the National Wildlife Refuge System by providing a wildlife-oriented recreational benefit to Americans. By limiting the numbers of hunters and days of hunting as well as always providing sanctuary from human disturbance in other areas of the Refuge, this waterfowl hunting program will not interfere with the Refuge achieving its purposes of providing *sanctuary* and a *breeding ground for migratory birds*. The use contributes to the purpose of *wildlife-oriented recreational development*. Hunting is also one of the six wildlife-dependent recreational uses of the National Wildlife Refuge System as stated in the National Wildlife Refuge System Improvement Act of 1997.

<b>Mandator</b>	y Re-Evaluation Date (provide month and year for "allowed" uses only):
X	Mandatory 15-year Re-Evaluation Date (for priority public uses)  Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)
NEPA Co	mpliance for Refuge Use Decision (check one below):
	orical Exclusion without Environmental Action Statement
	orical Exclusion and Environmental Action Statement onmental Assessment and Finding of No Significant Impact
Enviro	onmental Impact Statement and Record of Decision

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# **Signatures:**

Prepared by (signature)	Date
Refuge Manager/Project Leader Approval (signature)	Date
Concurrence	
Refuge Supervisor (signature)	Date
Regional Chief, National Wildlife Refuge System (signature)	Date

# E.4 ELK HUNTING COMPATIBILITY DETERMINATION

**Use:** Elk Hunting (Alternative 3)

Refuge Name: Turnbull National Wildlife Refuge, Spokane County, near Cheney, Washington

#### **Establishing and Acquisition Authorities:**

- Executive Order 7681, dated July 30, 1937
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended (16 U.S.C. 460k-460k-4)
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 742l]

## **Refuge Purpose(s):**

- "... as a Refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 7681, dated July 30, 1937)
- "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (16 U.S.C. 715d [Migratory Bird Conservation Act])

- "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ... "(16 U.S.C. 460k-1) ... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ... 16 U.S.C. 460k-2 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources ... "(16 U.S.C. 742f(a)(4) ... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ... 16 U.S.C. ¤¤ 742f(b)(1) (Fish and Wildlife Act of 1956).

National Wildlife Refuge System Mission: The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

**Description of Use:** No hunting occurs on the Refuge at the current time. Elk hunting is proposed under the Preferred Alternative 3 of the CCP to respond to issues related to elk management, especially: a) heavy browsing of young aspen and other deciduous shrubs and trees on the Refuge; b) neighbor complaints of elk damage to hay, fences and other property items; and c) to facilitate hunting as a wildlife-dependent recreational use as specified under the Improvement Act.

Under Preferred Alternative 3, elk hunting would occur each year, but the number of permits issued and length and number of seasons would vary depending on aspen monitoring results conducted each year. Elk hunting would occur outside the Public Use Area in special safe hunting areas designated by the Refuge Manager. Areas tentatively identified include the west side of the Refuge below the Turnbull Slough, and the east side of the Refuge north of the Public Use Area and east of the Turnbull Pines Research Natural Area. Hunting areas would be specified in a hunt plan. The hunt program would permit vehicles at parking facilities accessing these hunt areas. Hunters would access hunting areas by foot. Key facilities involved include parking areas at two to three hunter access points. Special needs for disabled hunters would be accommodated upon request.

Under the Preferred Alternative 3, approximately 6-10 elk hunt permits may be issued for each of the hunt seasons proposed in any particular year (example: 6-10 permits for an archery season plus 6-10 permits for a youth rifle hunt). The actual number of permits will be determined after consultation with Washington Fish & Wildlife Department and based on wildlife and habitat monitoring results. All hunting would occur in the months of September, October, November, and/or December during legal hunting hours. No overnight camping would be permitted.

See Chapter 2 of the *Turnbull National Wildlife Refuge Draft Environmental Assessment for the Comprehensive Conservation Plan* for a detailed description of the use under the Preferred Alternative 3. Also see Map 5 for proposed locations and facilities of the use under Preferred Alternative 3 in Chapter 2 of the Draft CCP/EA.

This use is defined as a wildlife-dependent recreational use under the Improvement Act. See Implementation section (Appendix F of the Draft CCP/EA) to determine priority of projects associated with these uses as funding becomes available.

<u>Use Within the Proposed Expansion Area</u>: Chapter 2 of the draft CCP/EA identifies areas in which the Service would seek to acquire land from willing sellers outside of the current approved acquisition boundary [proposed Refuge expansion area]. Elk hunting currently occurs within the proposed Refuge expansion areas. Compatible elk hunting could be allowed in the future expansion area in designated localities if large enough land blocks are added. Since we do not presently know which landowners may be willing sellers and which may not, we are not able to address future hunting use in specific locations at this time.

<u>Availability of Resources</u>: The following funds would be required to run a program as designed under the Preferred Alternative 3. Currently, no funds are being expended on this program, so the funds below represent all new funding needs. For the one-time expenses, all available sources would be investigated.

Activity	One Time Expense	Recurring Expense
Development and administration of Hunt Plan and associated documentation	\$20,000	\$2,500
Development and maintenance of hunter parking	\$48,000	\$2,000
Placement and maintenance of signs	\$1,000	\$ 500
Law enforcement staffing	0	\$10,000
Biological staff for monitoring effects	0	\$ 5,000
Totals	\$69,000	\$20,000

Offsetting revenues: (recurring)

Hunt permit fees \$ 3,000

Existing Refuge resources are not adequate to properly and safely administer the use as envisioned under the Preferred Alternative 3. To implement the use, the Refuge would pursue partnerships with appropriate cooperators and/or volunteers. Additional funds and in-kind services would be needed, especially to assist in costs of administering and patrolling the hunt.

# **Anticipated Impacts of the Use(s):**

*Impacts to Wildlife and Habitats:* Direct mortality to elk associated with the hunt would of course occur. Some wounding would occur as well. In all cases, the Refuge would seek to minimize needless elk mortality while providing a quality hunt experience and obtaining habitat objectives.

Foot travel associated with elk hunting could potentially result in trampling of vegetation. Since elk hunting would involve small numbers of hunters, and take place during the time of the year most understory plants are dormant, this activity would likely have little direct impact on any native plant species.

The activity of hunters pursuing elk on the Refuge could also disturb some wildlife species. These potential impacts are described more fully in the Wildlife Observation CD. Hunters walking in close proximity to wetlands and associated gun fire can result in behavioral responses by waterfowl and other wetland birds. Any portions of the Refuge that may be open to elk hunting would include wetlands. Waterfowl use, however, occurs only on the permanent and semipermanent wetlands of the Refuge

through mid-November when freeze-up usually occurs and waterfowl move to rivers and larger, deeper lakes off-Refuge. This short period of overlap between the elk hunting season and the period of peak fall waterfowl concentrations coupled with a small number of hunters and a hunting season tied into habitat damage, would likely result in only minimal impacts to waterfowl.

This use may impact threatened and endangered species, including Spalding's silene and bald eagle. Impact to the silene populations are expected to be minimal. Short-term disturbance impacts to the bald eagle would be expected to increase inside the hunt units. Some short-term effects to bald eagle use within the hunt units would also be expected. Wintering populations of bald eagles have shown susceptibility to disturbance resulting in disrupted foraging behavior and changes in social dynamics between other species in the avian scavenger guild (Skagen 1991) and avoidance of areas with high disturbance (Stalmaster and Newman 1978). Stalmaster and Newman (1978) also found that recreational activities occurring within 250 meters of roosting and foraging areas resulted in changes in distribution patterns by displacement to areas of lower human activity. With regards to hunting, Stalmaster and Newman (1978) found that gunshots were the only noises that elicited overt escape behavior by eagles in their study. Edwards (1969) also found that gunshots could be used to flush eagles from their roost (cited in Stalmaster and Newman 1978). Hunt units would likely incorporate portions of large permanent wetlands utilized by bald eagles for foraging, potentially placing hunters within 250 meters of this habitat.

Elk hunting can also have indirect impacts to habitat by reducing populations or redistributing elk thereby changing densities of elk in a given area. Under very high densities, elk can damage habitats through overgrazing and trampling resulting in the loss of preferred forage species, soil damage, increased erosion and spread of less palatable exotic species on disturbed areas. Generally elk populations (unless extremely large) do not impact the ponderosa pine and steppe communities found on the Refuge because of the low preference for pine and the resistance of most grasses and forbs to moderate grazing pressure. The only impacts to pine forest that have been observed on the Refuge to date have been in the tall shrub phase of the Ponderosa pine /snowberry association. In these areas high use of blue elderberry, serviceberry, chokecherry and spiraea has occurred impacting growth form and reproduction. Elk use and preference for aspen and other deciduous browse is, however, well documented (Debyle 1985). Under high elk densities and limited habitat, elk browsing during winter can have a negative impact on the regeneration of aspen and other deciduous trees and shrubs. Elk browse the tips of new shoots below 2.5 meters and also eat the bark of mature aspen. When browsing intensity is high enough to remove the majority of the current years growth, aspen develops a shrub form or the new sprouts are killed. Without recruitment of an adequate density of well formed aspen stems, mature trees that die will not be replaced and the stand will decline.

It is important to note that redistributing elk from areas of high density to areas providing relatively greater security without reductions in population size will only transfer impacts. If hunting is applied on an annual basis in the same units, elk may alter use patterns and begin using the remaining no-hunting zones to a greater degree. These no-hunting zones would be private parcels and portions of the Refuge set aside for other public uses. The main no-hunting zone on the Refuge would be the Public Use Area. This portion of the Refuge has historically received low elk use as a result of the relatively greater level of human disturbance. Since disturbance associated with hunting has a greater influence on elk behavior than other public uses (Skovlin 1982), elk will likely begin to habituate to the level of human disturbance in the no shooting areas (Ward 1973). Increased density of elk in these areas may increase the intensity of grazing and browsing resulting in habitat damage.

Impacts to other wildlife-dependent recreational uses: Hunting (especially gunshot noise) has the potential to disturb Refuge visitors engaged in other wildlife-dependent recreational uses. To minimize this potential conflict, the Refuge has designated defined hunting areas that would be separated spatially from the Public Use Area and the Columbia Plateau Trail. See Map for Alternative 3 in Chapter 2 of the Draft CCP/EA.

Elk hunting could have a positive effect on wildlife observation / photography quality. Hunt areas would be located outside the boundaries of the Public Use Area and buffered from the Columbia Plateau Trail and County roadways. Although uncertain, wildlife observation / photography opportunities could be increased as a variety of animals move away from the hunted zones toward no hunting zones, including the Public Use Area. The ultimate outcome for the visitor is that higher numbers of animals may be visible, but the aesthetic value of the experience may be diminished somewhat by the occasional sound of shots.

Anticipated Impacts of the Use within the Proposed Expansion Area: A block of lands would have to be acquired, sufficient in size to support a quality hunt program and sanctuary area, before a hunt program could be initiated. Staffing would also have to increase to adequately manage and enforce the hunt program. Preliminary stipulations that would have to be met before an elk hunting program could be implemented in the expansion area include:

- 1) There is no significant indirect, direct, or cumulative threat anticipated to human health or safety;
- 2) There is no significant indirect, direct, or cumulative threat anticipated to natural or cultural resources;
- The use is consistent with management of existing Turnbull NWR lands and would contribute to achieving Refuge goals;
- 4) The newly acquired lands represent a meaningful unit within which to manage the activity; and
- 5) There are no significant anticipated conflicts with other wildlife-dependent recreational uses.

If and when the Refuge acquires land within the expansion area, there could be opportunities for compatible elk hunting. Due to the similarity of species and habitats with current Refuge owned lands, this use would be anticipated to have impacts similar to those described for current Refuge owned lands. If the Refuge manager determines that those opportunities would substantially change the conditions under which this use was found compatible, or that there is new, substantive information regarding the effects of the use, this CD would need to be re-evaluated.

<u>Public Review and Comment</u>: Public review and comments will be solicited in conjunction with the CCP/EA in order to comply with the National Environmental Policy Act and with Service policy. Public and state review would also be solicited during preparation of the step-down Sport Hunting Plan subsequent to approval of the CCP.

<u>Determination</u> :		
	Use is Not Compatible	
X	Use is Compatible With Following Stipulations	

#### **Stipulations Necessary to Ensure Compatibility:**

User stipulations:

- Hunters must obey all state and federal hunting regulations.
- Hunting permitted from within designated hunting areas only.
- Access will be walk-in only except upon special request to reasonably accommodate disability.
- Hunting dogs will be under hunter control at all times.

#### Administrative stipulations:

- Allowing the use as described in Preferred Alternative 3 is contingent upon finding the full funding to properly manage and administer the use. However, if funds are short for construction of facilities associated with this use, that should not be construed as invalidating the compatibility of the use overall.
- Prior to opening of a hunt, a complete Hunting Plan package (Sport Hunting Plan, NEPA
  documentation, state concurrence, Section 7 ESA consultation regulations, and Federal Register
  regulations) will be completed as required under Refuge System policy. Hunting will not be
  allowed until regulations allowing hunting have been published in the Federal Register.
- Hunt units will be well posted and separated from other public use areas of the Refuge including the main Public Use Area, Columbia Plateau Trail, Turnbull Laboratory for Ecological Studies, and County roads to assure public safety.
- The Refuge will vary hunt units to reduce impacts to non-target wildlife by providing spatial and /or temporal sanctuary from disturbance associated with elk hunting.
- To the extent possible, the Refuge will vary hunt units spatially and/or temporally to also minimize habituation by elk and their concentration in no shooting zones.
- Approximately 6-10 elk hunt permits may be issued for each of the hunt types (i.e. archery hunt, rifle hunt) proposed in any particular year. The actual number of permits will be determined after consultation with Washington Fish & Wildlife Department and based on wildlife and habitat monitoring results.

<u>Justification</u>: Elk hunting at Turnbull NWR as described in this CD contributes to the mission of the National Wildlife Refuge System by conserving aspen stands through elk management. Elk browsing of aspen is a known concern on the Refuge. Elk hunting will reduce and redistribute elk densities which can decrease browsing intensity on aspen sprouts enough to allow escapement and height growth putting them beyond the reach of elk. Disturbance concerns can be incorporated into the design of the hunt area, mitigating these impacts to a certain extent. Elk hunting also contributes to the mission by providing a wildlife-oriented recreational benefit to Americans. By limiting the numbers of hunters and days of hunting as well as always providing sanctuary from human disturbance in other areas of the Refuge, an elk hunting program will not interfere with the Refuge achieving its purposes of providing *sanctuary* and a *breeding ground for migratory birds and other wildlife*. The use also contributes to the purposes of *wildlife-oriented recreational development* and *the protection of natural resources*. Hunting is also one of the six wildlife-dependent recreational uses of the National Wildlife Refuge System as stated in the National Wildlife Refuge System Improvement Act of 1997.

Mandatoi	y Re-Evaluation Date (provide month and year for "allowed" uses only):
X	_Mandatory 15-year Re-Evaluation Date (for priority public uses) _ Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)
NEPA Co	mpliance for Refuge Use Decision (check one below):

Turnbull NWR Draft CCP / EA - June, 2005	
Tallibali latti State Got / EA Gallo, 2000	
Categorical Exclusion without Environmental Action Stat	ement
Categorical Exclusion and Environmental Action Stateme	
Environmental Assessment and Finding of No Significant	Impact
Environmental Impact Statement and Record of Decision	
<u>Literature Cited</u> :	
Debyle, N. V. 1985. Water and watershed. pp 153-167. In: Debyle, N. V. 1985.	byle, N.V. and R. P. Winokur (eds.).
Aspen: Ecology and management in the western Unite	
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Skagen, S. K., R. L. Knight, and G. H. Orians. 1991. Human of Ecological Applic. 1:215-225.	disturbance of an avian scavenging guild.
Skovlin, J.M. 1982. Habitat requirements and evaluations. <i>In</i>	
Management, eds. J.W. Thomas and D. E. Toweill, pp Stackpole Books, Harrisburg, PA.	369-413. Wildlife Management Institute,
Stackpole Books, Hallisburg, FA.	
Stalmaster, M. V. and J. R. Newman. 1978. Behavioral respo	nses of wintering bald eagles to human
activity. J. Wildl. Manage. 42:506-513.	
Edwards, C. C. 1969. Winter behavior and population dynam Ph.D. Thesis. Brigham Young Univ., Provo. 157pp.	ics of American eagles in Western Utan.
Ward, A.L. 1973. Elk behavior in relation to multiple uses on	the Medicine Bow National Forest Proc
West. Assoc. State Game and Fish Comm. 53:125-141	
Signatures:	
Prepared by (signature)	Date
Trepared by (signature)	Date
Refuge Manager/Project Leader Approval (signature)	Date
Concurrence	
Refuge Supervisor (signature)	Date
Designal Chief National Wildlife Deferre Contain (classes and	Doto
Regional Chief, National Wildlife Refuge System (signature)	Date

# E.5 BICYCLING, JOGGING AND CROSS-COUNTRY SKIING COMPATIBILITY DETERMINATION

<u>Use:</u> Bicycling, jogging and cross country skiing (Alternative 3)

Refuge Name: Turnbull National Wildlife Refuge, Spokane County, Washington, near Cheney

#### **Establishing and Acquisition Authorities:**

- Executive Order 7681, dated July 30, 1937
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended (16 U.S.C. 460k-460k-4)
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 742l]

# **Refuge Purpose(s):**

- "... as a Refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 7681, dated July 30, 1937)
- "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (16 U.S.C. 715d [Migratory Bird Conservation Act])
- "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ... "(16 U.S.C. 460k-1) ... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ... 16 U.S.C. 460k-2 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources ... "(16 U.S.C. 742f(a)(4) ... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ... 16 U.S.C. \(\times\) 742f(b)(1) (Fish and Wildlife Act of 1956).

<u>National Wildlife Refuge System Mission</u>: The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

<u>Description of Use</u>: By one estimate, obtained through a survey of about 500 visitors, approximately twelve percent of visitors to Turnbull NWR bicycle while on the Refuge (EDAW, 1999). Others estimate that the number is smaller - around 1000 visitors per year. Other visitors, likely fewer, jog (run), or cross country ski while at the Refuge. While biking, jogging, or skiing, these visitors may frequently view wildlife while at the Refuge. However, these activities are treated separately in this CD since impacts are of a different nature and bicycling, jogging, running, and skiing do not automatically support the six wildlife-dependent priority uses.

Most of the bicycling is observed March-October, seven days a week during daylight hours. Use currently occurs on the Auto Tour Route within the 2,200-acre Public Use Area. Some use occurs now

on the closed road which accesses Stubblefield Lake, though this use is not considered legal. There are no current designated facilities for biking, jogging, or skiing.

Under the Preferred Alternative 3, a new 2.6 mile bicycle trail would be constructed that would run from the entrance road to the Public Use Area along Cheney Plaza Highway utilizing remnants of the old highway bed and fire guards along the Refuge boundary. This bike trail would link to the Columbia Plateau Trail (CPT). Hikers and skiers will be allowed on the new bike route. Under preferred Alternative 3, bicycles will be allowed only on the new bike trail, the auto tour route, and the CPT.

Special events and training will not be permitted on the Refuge. The Refuge will limit the number of individuals in any biking group to five.

Cross country skiing is a pastime only observed at Turnbull NWR during those winters when there is sufficient snow upon which to ski (~ 3 out of 10 years). The skiing occurs November-February when there is suitable snow cover. Skiers utilize the entrance road, auto tour route and also in the past have skied off trail within the Public Use Area. They can also use the Columbia Plateau Trail and will have access to the proposed bicycle trail linking the CPT to the Public Use Area. There are no plans for providing groomed ski trails.

Jogging occurs occasionally at the present time on Refuge trails and roads. Group training will not be permitted on the Refuge.

See Chapter 2 of the *Turnbull National Wildlife Refuge Draft Environmental Assessment for the Comprehensive Conservation Plan* for a description of the uses under the Preferred Alternative 3. Also see Map 5 for proposed locations and facilities of the use under Preferred Alternative 3 in Chapter 2 of the Draft CCP/EA. See Chapter 3 of the same document for a description of the uses at the current time.

These uses are not defined as wildlife-dependent recreational uses under the Improvement Act. See Implementation section (Appendix F of the Draft CCP/EA) to determine priority of projects associated with these uses as funding becomes available.

<u>Use Within the Proposed Expansion Area</u>: Bicycling, skiing, and jogging take place within the expansion area along the CPT and along public roads. Future use in the expansion area would not likely increase were the Refuge to acquire additional lands.

**Availability of Resources:** The following funds would be required to run a program as designed under the Preferred Alternative 3. All available sources would be investigated.

Activity or Project	One Time Expense	Recurring Expense
Bike Trail development (Refuge portion)	600,000	
Staff costs		2,500
Equipment and Maintenance		250
Materials and supplies		575
Screening and signing	8,000	

Law enforcement		3,000
Total	\$608,000	\$6,375

Offsetting revenues: None

Existing Refuge resources are not adequate to properly and safely administer the use as envisioned under the Preferred Alternative 3. To implement the use, the Refuge would pursue partnerships with appropriate cooperators and/or volunteers. Additional funds and in-kind services would be needed, especially to assist with bicycle trail construction.

<u>Anticipated Impacts of the Use(s)</u>: See the Wildlife Observation and Photography CD for a summary of scientific findings on impacts to wildlife from human activity associated with wildlands recreation.

<u>Wildlife Response to Jogging:</u> Rapid movement by joggers is more disturbing to wildlife than slower moving hikers (Bennett and Zuelke 1999). However, joggers tend to spend less time in a particular area than pedestrians and are less likely to directly approach or otherwise disturb wildlife. The effects of human disturbance are reduced by restricting human activity to an established trail. Animals show greater flight response to humans moving unpredictably than to humans following a distinct path (Gabrielsen and Smith 1995).

<u>Wildlife Response to Bicycling:</u> Rapid movement directly toward wildlife frightens them, while movement away from or at an oblique angle to the animal is less disturbing (Knight and Cole 1995). Knight and Cole (1991) suggest that sound may elicit a much milder response from wildlife if animals are visually buffered from the disturbance.

Under Preferred Alternative 3, the new bike trail's course along the old Cheney-Plaza Highway would put individuals on foot and bicycle near several wetlands including the Overpass Pond, East Tritt Lake and Reeves Lake. Similarly, outside the Public Use Area, the Columbia Plateau Trail crosses 4.75 miles of the Refuge where individuals on foot, bicycle and horseback pass within 30 meters and in full view of 56 acres of several important wetlands (Overpass Ponds, Wetland, Long Lake, and Ballinger Lakes). Several of the areas adjacent to the CPT provide important waterfowl migration habitat in the spring and fall. Depending on the level of use and compliance to regulations restricting off-trail use, some impact to wildlife would be expected.

Use of both the CPT and the new Refuge bike trail would be expected to increase over the next fifteen years. Although biking has the potential to cause flushing of birds from these important breeding and foraging habitats, bicycling on the Refuge trails and on the CPT is not anticipated to cause large disturbances to wildlife as long as riders do not directly approach wetlands or areas where wildlife congregate, and riders stay predictably on the designated bike trails. This will allow wildlife to habituate to the use.

In addition, group size will be limited by prohibiting special events and training within the Refuge's portion of the trail. Under Preferred Alternative 3, the Refuge would implement regulations restricting walking, hiking, jogging, and skiing to trails only to minimize wildlife disturbance. Enforcement of these provisions should minimize negative effects, especially disturbance effects, to wildlife and habitats.

## Wildlife Response to Cross-Country Skiing:

In two different studies of winter recreation impacts to wildlife in Yellowstone National Park, Aune (1981) and Cassirer (1990) found that, except for coyotes, all wildlife species observed (mostly big game) reacted more quickly to an approaching skier than to a snowmobile, and the flight distance was generally greater from skiers. Bison were found to respond dramatically to skiers who were off established trails. All wildlife species studied, including bison, were wary of people on foot. Aune (1981) also observed that in Yellowstone National Park, elk were less likely to flee from snowmobiles or skiers late in the winter than they were earlier in the season. He suggested that this was likely due in part to habituation by elk to snowmobile traffic, and in part to decreased vigor of elk later in the season combined with the increasing difficulty of flight through deep, crusted snow. Proximity of escape cover that breaks the line of sight between elk and the disturbance may reduce flight distances and consequently the amount of energy used in flight. Moving automobiles and trail bikes had little effect on elk resting in timber at distances of only 0.13 miles (Lyon and Ward 1982).

Ferguson and Keith (1982) researched the influence of crosscountry ski trail development and skiing on elk and moose distribution in Elk Island National Park in Alberta, Canada. They found no indication that overwinter distribution of elk was altered by cross-country skiing activity. However, it did appear that elk moved away from ski trails, particularly those that were heavily used, during the ski season.

Aune (1981) also reported that snowmobile activity in YNP resulted in average elk flight distances of 33.8 m, compared to average flight distances of 53.5 m in response to skiers. In another study, elk began to move when skiers approached to within 15 m in an area heavily used by humans year-round, and within 400 m in an area where human activity is much lower (Cassirer et al. 1992). Elk in YNP fled more frequently and over greater distances from skiers off established trails than from skiers on established trails (Aune 1981).

Rudd and Irwin (1985) investigated the movements of moose in response to cross-country skiing and found that the average distance 19 moose moved away from people on snowshoes or skis was 16.6 yards, and the average distance at which moose were displaced was 80.7 yards.

Overall Impact at Turnbull NWR: The studies cited above show that these activities can and do disturb wildlife. However we anticipate the impacts would be small, given the relatively low numbers of users. Containing these uses to designated trails and/or roads should prevent most of the worst of the potential impacts and allow wildlife in the area to habituate to the use.

This use may impact threatened and endangered species, including Spalding's silene and bald eagle. Impact to the silene populations are expected to be minimal. Disturbance impacts to the bald eagle would be expected to increase, but could be reduced to a certain extent through the design of public use facilities. See Section 4.1.7 of the Draft CCP/EA for further discussion of the effects of these uses on threatened and endangered species.

Anticipated Impacts of the Use within the Proposed Expansion Area: If and when the Refuge acquires land within the expansion area, there could be opportunities for biking, jogging, and cross-country skiing. Due to the similarity of species and habitats with current Refuge owned lands, this use would be anticipated to have impacts similar to those described for current Refuge owned lands. If the Refuge manager determines that those opportunities would substantially change the conditions under which this use was found compatible, or that there is new, substantive information regarding the effects of the use, this CD would need to be re-evaluated.

**Public Review and Comment**: Public review and comments will be solicited in conjunction with the CCP/EA in order to comply with the National Environmental Policy Act and with Service policy.

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D)ei	term	nins	ation	•

Use is Not CompatibleUse is Compatible With Following Stipulations

# **Stipulations Necessary to Ensure Compatibility**:

# User Stipulations:

- Joggers, bicyclists, and skiiers are required to stay on trails and designated roadways yeararound.
- Bicyclists and cross country skiers can only go on the Auto Tour Route, Columbia Plateau Trail, the proposed connecting bike trail and entrance road. All other trails will be pedestrian only.
- Use is restricted to daylight hours only.
- Groups will be limited to five people or less.

#### Administrative stipulations

- Allowing the use as described in Preferred Alternative 3 is contingent upon finding the full funding to properly manage and administer the use. However, if funds are short for construction of facilities associated with this use, that should not be construed as invalidating the compatibility of the use overall.
- At least 50% of the Refuge will be managed as wildlife sanctuary where human disturbance is infrequent.
- Where feasible native trees and shrubs will be planted to create screening along the new bike trails to reduce disturbance.
- Regulations will be available to the public through a Refuge brochure.
- Directional, informational and interpretive signs will be posted and maintained to help keep visitors on trails and help educate the public on minimizing wildlife and habitat disturbance.

<u>Justification</u>: Biking, jogging, and cross-country skiing do not directly contribute to the mission of the National Wildlife Refuge System nor to the wildlife purposes of the Turnbull NWR. They are merely ways visitors access the Refuge. We believe some biking, jogging, and cross-country skiing visitors come with the expectation of wildlife observation which is one of the six wildlife-dependent recreational uses of the National Wildlife Refuge System as stated in the National Wildlife Refuge System Improvement Act of 1997. Though these activities can cause disturbance, we believe that by limiting these activities to a small percentage of the Refuge and by always providing wildlife sanctuary from human disturbance in other areas of the Refuge, these activities will not interfere with the Refuge achieving its purposes of providing *sanctuary* and a *breeding ground for migratory birds and other wildlife*.

Mandatory Re-Evaluation Date (provide month and year for "allowed" uses only):	
Mandatory 15-year Re-Evaluation Date (for priority public uses)  X Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)	
NEPA Compliance for Refuge Use Decision (check one below):	
Categorical Exclusion without Environmental Action Statement	

Turnbull NWR Draft CCP / EA - June, 2005
Categorical Exclusion and Environmental Action Statement
Environmental Assessment and Finding of No Significant Impact
Environmental Impact Statement and Record of Decision
Literature Cited:
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Knight, R. L. and D. N. Cole. 1991. Effects of recreational activity on wildlife in wildlands <i>in</i> Transactions of the North American Wildlife and Natural Resources Conference. 56:238-247.
<ul><li>Knight, R. L. and D. N. Cole. 1995. Wildlife responses to recreationists. Pages 71-79 in R. L. Knight and K. J. Gutzwiller, ed. Wildlife and Recreationists: coexistence through management and research Island Press, Washington, D. C. 372pp</li></ul>
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Rudd, L. T., and L. L. Irwin. 1985. Wintering moose vs. oil/gas activity in western Wyoming. Alces 21:279–298.
Signatures:
Prepared by (signature) Date

	Turnbull NWR Draft CCP / EA - June, 2005
Refuge Manager/Project Leader Approval (signature	Date
Concurrence	
Refuge Supervisor (signature)	Date
Regional Chief, National Wildlife Refuge System (signature	re) Date

# E.6 RESEARCH AND MONITORING COMPATIBILITY DETERMINATION

<u>Use:</u> Research and Monitoring including the Operation of the Turnbull Laboratory for Ecological Studies (Alternative 3)

**Refuge Name:** Turnbull National Wildlife Refuge (NWR), Spokane County, Cheney Washington

# **Establishing and Acquisition Authorities:**

- Executive Order 7681, dated July 30, 1937
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended (16 U.S.C. 460k-460k-4)
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 742l]

# Other Applicable Authorities:

- Intergovernmental Cooperative Agreement between the Bureau of Sport Fisheries and Wildlife and Eastern Washington State College for the establishment and operation of an environmental research facility on Turnbull NWR, dated June 1973.
- Intergovernmental Cooperative Agreement between the US Fish and Wildlife Service (USFWS) and Eastern Washington University for the operation and maintenance of an environmental research facility on Turnbull NWR, dated October, 1988.
- Memorandum of Understanding between the US Fish and Wildlife Service and Eastern Washington University for the purpose of conducting environmental and biotic studies at the Turnbull Laboratory for Ecological Studies, dated July 2004.
- Delegated State Rental Agreement between State of Washington, Department of Ecology and U.S. Fish and Wildlife Service, Turnbull National Wildlife Refuge for lease of a site on Turnbull NWR for ambient air condition monitoring station, dated October 2003.

#### **Refuge Purpose(s):**

- "... as a Refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 7681, dated July 30, 1937)
- "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (16 U.S.C. 715d [Migratory Bird Conservation Act])
- "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." (16 U.S.C. 460k-1) ... the Secretary ... may accept and use ... real ... property. Such

- acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ... 16 U.S.C. 460k-2 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources ... "(16 U.S.C. 742f(a)(4) ... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ... 16 U.S.C. \(\sigma\) 742f(b)(1) (Fish and Wildlife Act of 1956)

<u>National Wildlife Refuge System Mission</u>: The mission of the National Wildlife Refuge System (NWRS) is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

<u>Description of Use</u>: The Refuge Manager issues up to six Special Use Permits (SUP) per year for approved research projects on Turnbull Refuge. This is the number of permits the staff can currently handle in one year. This limit also helps restrict research-related wildlife and habitat disturbance and also minimizes researcher competition for space and project interference. Resource management oriented research is given priority, but other compatible research is permitted. Research activities include collection of specimens, measuring, observation, monitoring, photography, live trapping, data analysis, and report writing. Research is conducted by students and professors from local universities and colleges (such as Eastern Washington University and Washington State University). Additional permits will be considered on a case by case basis.

Data on air quality and weather is also collected by Federal, State and County agencies through stationary monitoring equipment. Air quality monitoring stations are located on the Refuge and operated by the Washington Department of Ecology and Spokane County Air Pollution Control Agency (SCAPCA). The County monitoring station is used as a control for the County's air quality monitoring system. A national climate station is being proposed for installation on the Refuge.. This is one of 100 stations being located across the United States to measure long term climatic conditions.

Both air quality monitoring stations are located at the same site, near the Refuge headquarters at the site of the old well pump house just south of Pine Creek and Headquarters Pond. The SCAPCA station sits on the existing cement pad from the old well pump house. A single SCAPCA employee visits the station frequently (sometimes as often as once a day during periods of poor air quality) to ready the monitors and change filters. They approach the site either on foot or by vehicle on an existing dirt access road. Electrical consumption is minimal and has been provided to the County by the Refuge in the past. WA Department of Ecology monitors their site electronically. The State has been paying a nominal fee to the Refuge for electrical consumption. The proposed locations for the National Oceanic and Atmospheric Association (NOAA) national climate station are the current location of the station's weather (RAWS) station near the maintenance shop or near the Refuge bunkhouse.

Research occurs year-round throughout the 15,656 acres of the Refuge, in and around wetlands and streams, springs, and in all upland habitats. The activity occurs mostly during the period March through October, on weekdays, and during daylight hours. Research may occasionally occur on weekends and rarely at night. Monitoring stations would be operated year-around.

In addition to the research above, Eastern Washington University (University) would continue to operate an environmental research facility known as the Turnbull Laboratory for Ecological Studies (TLES) and conduct research in an area of approximately 50 acres near this facility in the northern portion of the Refuge along the Cheney-Plaza Road at T23N, R41E, S1/2 Section 25 and T22N, R42E, E1/2E1/2 Section 5. University research activities are subject to the terms of the cooperative agreement between the University and the Service which was first entered into in 1973, renewed in 1988, and again in 2004 as a memorandum of understanding (MOU). (See Other Applicable Authorities, above) In particular, under the MOU, "The facility is for the purpose of conducting environmental and biotic studies that will assist the Service in accomplishing the objectives for which the Refuge was established." This facility provides the opportunity for environmental studies and research on-site within a National Wildlife Refuge. Because of the existence of this facility and the cooperative agreement, the designated research site adjacent to TLES receives the most concentrated amount of research activities on the Refuge. In operating the facility and using Refuge lands the University is required to comply with all Federal and State laws applicable to Turnbull NWR.

Pending future funding, the university has proposed to put an addition on the existing laboratory doubling the square feet in order to add additional classroom and laboratory space.

This use is not defined as a wildlife-dependent recreational use under the Improvement Act. See Map 2 in Chapter 1 of the Draft CCP/EA for locations of the TLES facility.

**Availability of Resources:** The following funds would be required to run a program as designed under the Preferred Alternative 3. The projected need is equivalent to the existing recurring expenses for this program.

One time expenses: none

Recurring expenses for research activities:

Staffing: Salaries (Refuge Biologist, Refuge Manager) \$8,000/year Administrative oversight of monitoring station agreements \$250/year

TOTAL RECURRING EXPENSES: \$8,250/year

Offsetting revenues: WA Dept of Ecology reimburses the Refuge \$250/year for electricity used in

their monitoring station. With renewal of the Spokane County agreement the County will also be required to reimburse the USFWS for any electrical consumption associated with their station. The same will go for the NOAA

national climate station.

TOTAL RECURRING EXPENSES: \$8,250

Offsetting revenues: none

Existing Refuge resources are adequate to properly and safely administer the use as envisioned under the Preferred Alternative 3. However, grants may be sought with the assistance of the Friends of Turnbull NWR to assist the University in providing research funds for graduate students.

Anticipated Impacts of the Use(s): Disturbance to breeding, resting and feeding wildlife and their habitats may occur through frequent contact with researchers performing data collection and monitoring

activities. Results of disturbance could include the abandonment of nest and young resulting from frequent visitation to nest or breeding sites. In addition, trapping and marking of wildlife for habitat and population studies may result in injury and mortality; study of food habits, parasitism or disease may require the sacrifice of animals; and measurement of habitat characteristics or experimental manipulation of habitats may result in the alteration or destruction of wildlife habitat.

The TLES facility is an earth-shelter facility that blends well with the environment at the site and reduces the negative visual impacts of development at the site. Current impacts from the operation and maintenance of the facility and the research studies occurring on the site involve disturbance both to habitats and wildlife populations. With the anticipated level of activity occurring at the site over the next ten years, these impacts are determined to be insignificant at this time.

Should the USFWS allow the University to add on to the existing structure there will be direct impacts to habitats at the building site, displacing vegetation and animal life. This compatibility determination will be reviewed and amended as appropriate should the University request permission to add on to the laboratory facility.

Anticipated Impacts of the Use within the Proposed Expansion Area: If and when the U.S. Fish and Wildlife Service acquires land within the expansion area, there could be opportunities for compatible research. Due to the similarity of species and habitats with current Refuge owned lands, this use would be anticipated to have impacts similar to those described for current Refuge owned lands. If the Refuge Manager determines that those opportunities would substantially change the conditions under which this use was found compatible, or that there is new, substantive information regarding the effects of the use, this Compatibility Determination would need to be re-evaluated. The acreage covered under the MOU with the University would not be extended into the expansion area. There are no plans to re-locate or locate any monitoring stations from their present or proposed locations.

<u>Public Review and Comment</u>: Public review and comments will be solicited in conjunction with the CCP/EA in order to comply with the National Environmental Policy Act and with Service policy.

Determination:			
	Use is Not Compatible		
X	Use is Compatible With Following Stipulations		

# **Stipulations Necessary to Ensure Compatibility:**

# User Stipulations:

- All researchers will be required to submit a detailed research proposal for review and recommendation by the Refuge biologist and approval by the Refuge Manager. The biologist will provide the required proposal format to researchers.
- Researchers will be required to submit progress and final reports, as well as hard and electronic copies of all publications resulting from on-Refuge research.
- Special use permit conditions must be adhered to or the research and/or monitoring will be suspended.
- Under the terms of the Memorandum of Understanding between Eastern Washington University and the Service: a) the Service has the right to restrict the University from engaging in any projects when the Service determines that it is in its best interest to do so, b) Use of the lands

upon which the laboratory is located and all use of the premises outside the building are coordinated with and subject to the approval of the Refuge Manager and will be compatible with Refuge purposes and the mission of the National Wildlife Refuge System. c) The Service may terminate the MOU for failure of the University to comply with any or all of the terms or conditions of the cooperative agreement. Eastern Washington University is responsible for all maintenance and operational costs of running the laboratory facility.

- Any new construction or changes to the TLES facility will require Refuge Manager approval, an agreement amendment, review of this compatibility determination and must be in accordance with State and Federal laws, regulations and policy.
- Agencies and entities operating stationary monitoring stations requiring utilities (air quality, weather) will cover maintenance and operating costs including utilities for their station.
- All samples and specimens collected from the Refuge are Refuge property. Once the research
  project is complete or terminated, researchers shall check with Refuge to ascertain whether staff
  would prefer samples and specimens turned over to Refuge offices. Service personnel shall be
  provided access to the samples and specimens at any time at no cost (unless arrangements are
  made to the contrary).

# Administrative Stipulations:

- The Refuge Biologist will review all research proposals and identify any conditions of the research permits that eliminate or minimize negative impacts to any one area, species or habitat of the Refuge. The Refuge Biologist will make a recommendation to the Refuge Manager on whether the research should occur, based on weighing of benefits and impacts.
- Research requiring the collection of animals will only be authorized after careful consideration by the Refuge Biologist and Refuge Manager as to the importance of Refuge populations to the conservation of the species, the possible adverse impacts to the Refuge populations, and the humaneness of the collection methodology. State and federal collection permits are required.
- Consultation will be conducted for any research activities that may possibly have an impact on threatened or endangered species.
- The Refuge Manger will issue no more than six special use permits annually for research outside the TLES research site. Additional permits may be considered depending upon staff workload and cumulative impacts of existing research projects on wildlife and habitats and on each other. The permit holder will list the names of each person assisting on the research project and provide description and license number of vehicles that will be used.
- Semiannual reviews (April and October) will be conducted of the TLES Memorandum of Understanding, facility operations, and on-going research.
- Refuge staff will monitor research projects to ensure that on-going research is not causing any habitat damage or impacting any animal populations.
- Refuge staff will monitor operation and maintenance of the laboratory to ensure that the building and utilities attached to the TLES facility are not causing any further impacts to the site.
- Additional site specific and research specific terms and conditions will be included in all SUPs.

<u>Justification</u>: Research contributes to the NWRS mission and Turnbull NWR purposes by providing scientific data that expands biological knowledge of the Refuge. Research can assist the Service in making Refuge management decisions. Research is also an important part of the Refuge Vision and Goals and contributes to a quality environmental education program on the Refuge. The stipulations provided herein, and the terms and conditions that would be included on each SUP, will ensure that all research remains compatible. The operation of the air quality monitoring stations does not interfere with the management of the Refuge. The USFWS will benefit from any knowledge gained by the State and County on air quality issues. The USFWS would like to maintain a working partnership with the

Department of Ecology and Spokane County Air Pollution Control Agency in all aspects of Refuge management. The proposed NOAA national climate station will also provide information beneficial to the Refuge and the NWRS.

Mandatory Re-Evaluation Date (provide month and year for "all	owed" uses only):
Mandatory 15-year Re-Evaluation Date (for priority public u_X_Mandatory 10-year Re-Evaluation Date (for all uses other the	· · · · · · · · · · · · · · · · · · ·
NEPA Compliance for Refuge Use Decision:	
Categorical Exclusion without Environmental Action StatementCategorical Exclusion and Environmental Action StatementX Environmental Assessment and Finding of No Significant Im(The Turnbull Laboratory for Ecological Services was alsoAssessment for the operation of Turnbull NWR dated AugEnvironmental Impact Statement and Record of Decision	pact of discussed in an Environmental
Prepared by (signature)	Date
Refuge Manager/Project Leader Approval (signature)	Date
<u>Concurrence</u>	
Refuge Supervisor (signature)	Date
Regional Chief, National Wildlife Refuge System (signature)	Date

# E.7 AGRICULTURAL PRACTICES COMPATIBILITY DETERMINATION

<u>Use</u>: Grazing, Mowing and Haying (Alternative 3)

**Refuge Name**: Turnbull National Wildlife Refuge (NWR)

# **Establishing and Acquisition Authorities:**

- Executive Order 7681, dated July 30, 1937
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended [16 U.S.C. 460k-460k-4]
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 742l]

#### **Refuge Purpose(s):**

- "... as a Refuge and breeding ground for migratory birds and other wildlife." (Executive Order 7681, dated July 30, 1937)
- "...for use as an inviolate sanctuary, or for any other management purpose for migratory birds." 16 U.S.C. & 715d (Migratory Bird Conservation Act)
- "...suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species..." 16 U.S.C. &460k-1 (Refuge Recreation Act).
- "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." (16 U.S.C. 742f(a)(4)...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude...16 U.S.C. 742f(b)(1) (Fish and Wildlife Act of 1956)

**National Wildlife Refuge System Mission:** "To preserve a national network of lands and waters for the conservation and management of the fish, wildlife, and plants of the United States for the benefit of present and future generations." (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

<u>Description of Use</u>: As identified in the Turnbull NWR Habitat Management Plan (USDI, 1999) there is a need to control exotic plant species in both the seasonal wetland habitat as well as upland habitat sites. Suggested management tools include high intensity short duration grazing, mowing, and haying, as well as other restoration strategies, such as deep flooding, prescribed fire, herbicides, disking and seeding. The primary objective of using grazing, mowing, and haying is to manage vegetation to maintain or increase its value to wildlife at minimal cost to the government.

The U.S. Fish and Wildlife Service (USFWS) would permit livestock (cattle) operators to graze in selected wetland basins as needed to control reed canarygrass. The livestock could be used on approximately 200 acres of the Refuge annually to remove annual growth of this exotic species as part of a program to increase native plant diversity in Refuge wet meadow habitat. Although grazing was used in the past as an economic use in all upland and wetland habitats on this Refuge and was found incompatible, the use of cattle grazing as a management practice only to control reed canarygrass is a new application. Stressing reed canarygrass with high intensity short duration grazing is one tool to be used to improve habitat for native wetland plant species by reducing competition for light, space and nutrients. Grazing is expected to reduce and eliminate the accumulation of a heavy litter layer that would cover or shade out native plant species from germinating and growing.

The number of Animal Unit Months (AUM's) will be determined after experimentation and will be dependent upon the number of acres in the annual prescription. The permittee may be required to construct fencing using materials furnished by the Service. The permittee will be expected to maintain fences, gates adjoining their permit areas during the period their permit is in effect. All necessary materials for fence maintenance will be furnished by the Service (6 RM 9 and 9 RM 3). Temporary electric fencing will be used throughout this experimental grazing program. Once it has been determined whether this is a feasible tool for reed canarygrass control, consideration may be given to permanent fencing.

The USFWS will employ mowing and haying on approximately 300 acres of the Refuge. Haying and mowing will be used to remove annual growth of exotic species such as reed canarygrass, Canada thistle, tansy and knapweed. It also may be used to reduce flashy fuels in an effort to reduce wildfire hazards

along roadsides, trails and dikes and around facilities. Mowing and haying from mid-June through July would be used as needed on appropriate areas in conjunction with other integrated pest management tools. Haying may be conducted by cooperators, contractors, or by Refuge staff. A cooperator managed haying program will complement other reed canarygrass control efforts at minimal cost to the USFWS. It is not expected that more than two or three cooperators or permittees will be necessary to meet targeted acres.

The use of these agricultural practices will be closely monitored on an initial 17 acres of grazing on Helm marsh and 33 acres of haying on Helm Marsh and Stubblefield Lake to determine their impacts and success before implementation on a larger scale (200-300 acres). Success would be controlling further spread and/or reducing of the exotic plant species. These actions would support Turnbull NWR Habitat Management Plan Objective 1F: "By 2000, develop and apply on an experimental basis management strategies to restore and maintain native plant communities of seasonal wetlands and wet meadows dominated by reed canarygrass" (USDI, 1999). Also see Rule (2004).

These uses are not defined as wildlife-dependent recreational uses under the Improvement Act. See Implementation section (Appendix F of the Draft CCP/EA) to determine priority of projects associated with these uses as funding becomes available.

<u>Use Within the Proposed Expansion Area</u>: Any new land acquired will be assessed for weed and hazardous fuel problems and the appropriate management tool applied to abate the problem. Based on the success of the pilot program on existing Refuge lands the Refuge manager may propose to allow grazing, haying or mowing to enhance resource management.

<u>Availability of Resources</u>: The following funds would be required to run a program as designed under the Preferred Alternative 3. Currently, there is zero funding for this proposed program. For the one-time expenses, all available sources would be investigated.

One time expenses:	Staff-conducted	Cooperator-conducted
Planning	\$1,500	
Purchase of electric fencing materials	<u>\$1,500</u>	
TOTAL ONE TIME EXPENSES	\$3,000	
Recurring expenses:		
Implementation and monitoring	\$3,000	
Annual tractor maintenance	\$ 500	
Diesel fuel	\$ 500	
Maintenance Worker WG-8 Salary	\$1,800	
Permit compliance	<u>\$ 0</u>	<u>\$ 300</u>
TOTAL RECURRING EXPENSES:	\$5,800	\$ 300

Offsetting revenues: Grazing permittees would be charged fair market value for forage consumed. Haying permittees would be charged fair market value for hay.

Anticipated Impacts of the Use: Because of the limited nature of this use (short term, small acres) it is not anticipated that these activities will have major adverse effects on native Refuge flora or fauna or other Refuge uses. Livestock excrement may increase the nutrient level of the area being grazed and could increase the levels of nitrogen, and phosphorus in the wetland basin after spring run-off. Accumulations of these nutrients over time can have an impact on water quality (Whalen, S.G. 1990).

There will be short-term disturbance to wildlife caused by the presence of people, and livestock or haying machinery. Cover will be removed as livestock graze or haying is implemented. Nesting by some late ground nesting birds may be disrupted. Agricultural implements and livestock will cause some disturbance to soils and plants.

There is a potential for introduction of invasive plant species from private equipment used in haying. However, it is anticipated that removal of exotic grasses and weeds before they go to seed will reduce the spread of exotics.

These management actions to control reed canarygrass would result in improving native plant diversity in wet meadow plant communities. There are 100 species of native plants that should occur in habitats susceptible to invasion by reed canarygrass. Survey work on the Refuge has shown that plant species diversity of invaded stands has been reduced to 11 species on the average with some stands having three species or less. Every wetland basin on the Refuge and in the surrounding area has at this time been invaded by reed canarygrass (Rule, 2004).

A native plant of interest while managing reed canarygrass is *Howellia aquatilis*, a species federally listed as threatened. Monitoring of reed canarygrass control methods such as grazing will allow the Refuge to determine if the strategy is improving conditions for howellia and other native wetland plants. Fire danger will be decreased in mowed and grazed areas. Early spring browse, when flooded, as a result of these treatments will provide a food source for Canada geese and wigeon.

This compatibility determination is based on the findings and recommendations of Habitat Management Plan/Environmental Assessment (USDI, 1999a).

Anticipated Impacts of the Use within the Proposed Expansion Area: If and when the Refuge acquires land within the expansion area, there could be opportunities for compatible haying or grazing. Due to the similarity of species and habitats with current Refuge owned lands, this use would be anticipated to have impacts similar to those described for current Refuge owned lands. If the Refuge manager determines that those opportunities would substantially change the conditions under which this use was found compatible, or that there is new, substantive information regarding the effects of the use, this Compatibility Determination would need to be re-evaluated.

<u>Public Review and Comment</u>: Public review and comments will be solicited in conjunction with the CCP/EA in order to comply with the National Environmental Policy Act and with Service policy.

<u>Determination</u> (check one)				
	Use is Not Compatible			
X	Use is Compatible With Following Stipulations			

# **Stipulations Necessary to Ensure Compatibility:**

User stipulations:

- Only high intensity short duration grazing will be permitted.
- All grazing activities will be restricted to designated areas for the periods prescribed.
- Permittee must own the livestock.
- Permittee will install and remove the temporary electric fence around the unit.

- Grazing will occur in May-June when reed canarygrass is most palatable and livestock water is available.
- Cooperator's tractors and farming implements as well as Refuge equipment will be washed prior to moving onto the Refuge and also be cleaned of all mud, dirt and plant parts between sites within the Refuge to reduce the likelihood of moving noxious weed seeds.
- Refuge farm equipment will be washed at the shop equipment wash stall
- All having and mowing activities will be restricted to designated areas.
- Having and mowing activities will start after July 1 each year and be completed by November 1.

#### Administrative stipulations:

- A Special Use Permit (SUP) will be issued to all cooperators associated with grazing, haying, and mowing activities and will require that the above stipulations be met.
- Permits shall be issued annually.
- Each unit necessitating grazing treatment shall be grazed for no less that two years.
- Permits will be issued through sale by lottery (USFWS 6RM 9.10B).
- AUM's and hay prices will be set annually based on fair market value.
- Cattle stocking rate will be high enough to achieve at least 80% utilization of reed canarygrass within two weeks.
- Counts of livestock will be made at entrance and exit to ensure compliance.
- Harvested hay may remain on the Refuge no longer than necessary to allow sufficient drying for weighing and long-term storage (no longer than 30 days following the end of the haying season).
- A representative sample of the hay bales will be weighted and a bale count received by the Refuge manager prior to all harvested hay being removed.
- Areas will be monitored to ensure treatments are improving habitat conditions and to ensure grazing and having are the appropriate management strategies for a particular site.
- Refuge staff will monitor cooperator activities to ensure that special conditions required under the SUP and/or Cooperative Land Management Agreement are met.

<u>Justification</u>: These uses, as described in this Compatibility Determination, contribute to fulfilling the mission of the National Wildlife Refuge System and to the purposes of Turnbull NWR by managing wet meadows and seasonal wetland plant communities to conserve native plants, including the threatened water howellia, and their associated wildlife species. Grazing may be an effective strategy to help control the very aggressive exotic reed canarygrass and, when used in combination with other integrated pest management tools (chemical treatment, disking, prescribed fire, flooding, mowing and shading), can assist the Refuge in achieving its Vision and Goals. An experimental program of controlled livestock grazing was proposed under the Habitat Management Plan that will be closely monitored to determine its impacts and success before implementation on a larger scale. There are ten units identified on the Refuge that will received either singly or in combination one of the reed canarygrass treatments listed above. Treatments will be assigned based on logistical considerations; accessibility for equipment and perspective livestock permittees, and existing infrastructure (fences, water level control, livestock water, etc.).

Man	datory Re-Evaluation Date (provide month and year for "allowed" uses only):
	Mandatory 15-year Re-evaluation date (for priority public uses)
X	Mandatory 10-year Re-evaluation date (for all uses other than priority public uses)

# **NEPA Compliance for Refuge Use Decision:**

	Turnbull NWR Draft CCP / EA - June, 2005
Categorical Exclusion without Environmental Action State  Categorical Exclusion and Environmental Action State  Environmental Assessment and Finding of No Signification  Environmental Impact Statement and Record of Decision	ment ant Impact
<u>Literature Cited</u> :	
Rule, Mike. 2004. The Adaptive Management Plan for the Co NWR.	ontrol of Reed Canarygrass on Turnbull
USDI Fish and Wildlife Service. 1999. Turnbull National Wi December 1999. Cheney, Washington.	ldlife Refuge Habitat Management Plan,
USDI Fish and Wildlife Service. 1999a. Environmental Asses Habitat Management Plan, August 1999. Cheney, Wa	•
Signatures:	
Prepared by (signature)	Date
Refuge Manager/Project Leader Approval (signature)	Date
Concurrence	
Refuge Supervisor (signature)	Date
Regional Chief, National Wildlife Refuge System (signature)	Date

# E.8 COMMERCIAL TIMBER HARVEST COMPATIBILITY DETERMINATION

<u>Use</u>: Commercial Timber Harvest (Alternative 3)

Refuge Name: Turnbull National Wildlife Refuge, Spokane County, Washington

# **Establishing and Acquisition Authorities:**

- Executive Order 7681, dated July 30, 1937
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended (16 U.S.C. 460k-460k-4)
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 7421]

#### **Refuge Purpose(s):**

- "... as a Refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 7681, dated July 30, 1937)
- "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (16 U.S.C. 715d [Migratory Bird Conservation Act])
- "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." (16 U.S.C. 460k-1) ... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ... 16 U.S.C. 460k-2 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources ... "(16 U.S.C. 742f(a)(4) ... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ... 16 U.S.C. \(\times\) 742f(b)(1) (Fish and Wildlife Act of 1956).

National Wildlife Refuge System Mission: The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

Description of Use: This use is further defined and analyzed in the Habitat Management Plan's Environmental Assessment (USDI 1999). Under the Habitat Management Plan (HMP), the Refuge determined to use commercial tree harvest as a forest restoration technique to achieve HMP habitat goals (similar or identical to the goals listed in Chapter 1 of the CCP) in ponderosa pine forest and aspen riparian woodlands. The Refuge has been utilizing this tool as prescribed under the HMP since 1999 on approximately 400 acres/year. Continuing into the future, approximately 400 acres could be treated annually (more if additional lands acquired and in need of forest restoration) and harvested utilizing the following generic prescription.

- Cutting of trees 8 inch diameter at breast height (d.b.h.) or less could be completed on a minimum of 200 acres annually. Average densities in this size class range from 64-305 trees per acre with maximum densities above 1000 trees/acre. Stems would be removed for the small wood market, fuel wood, and piled or broadcast for later burning.
- Single tree selection harvest could be conducted on 400 acres of ponderosa pine forests annually to remove up to 60 percent of the trees between 8 24 inch d.b.h. This amounts to a removal on the average of between 5- 40 trees per acre > 8" d.b.h. The largest number of stems to be removed is actually in the < 8" d.b.h size classes which can amount to from 50 2,000 trees/acre.
- Group selection cuts less than .25 acres in size could be completed on approximately 5% of annual treatment areas to create forest openings for regeneration where they currently do not occur.
- In mixed stands of pine and aspen, up to 100% of the ponderosa pine less than 24 inches in diameter could be removed from annual forest treatment area (approximately 35 acres annually). Regeneration of aspen would be stimulated by burning or mechanical methods.

Commercial timber harvest with the use of heavy equipment will occur in most cases on frozen ground with a cover of snow. Other periods may be considered based upon equipment being used and moisture level in soils. Forest units will be cruised and marked by Refuge staff prior to bid proposals going out to

potential permittees. Awards will be determined through competitive bidding. The successful bidder will be issued a Special Use Permit with conditions attached.

This use is not defined as a wildlife-dependent recreational use under the Improvement Act. See Implementation section (Appendix F of the Draft CCP/EA) to determine priority of projects associated with these uses as funding becomes available.

<u>Use Within the Proposed Expansion Area</u>: Chapter 2 of the draft CCP/EA identifies areas in which the Service would seek to acquire land from willing sellers outside of the current approved boundary [proposed Refuge expansion area]. Were the Refuge to acquire some of these lands, timber harvest may be allowed in the future expansion area in designated localities dependent upon the condition of the forests. Since we do not presently know which landowners may be willing sellers and which may not, we are not able to address specific uses in specific locations at this time.

**Availability of Resources:** The following funds would be required to run a program as designed under the Preferred Alternative 3. For the one-time expenses, all available sources would be investigated.

*One time expenses (each sale site):* 

Graveling haul road:	\$50,000
Re-seeding skid trails and landing sites:	\$30,000
Pre and Post Monitoring:	\$ 5,000
TOTAL ONE TIME EXPENSES PER SALE SITE:	\$85,000

(note: Each sale site includes an estimate of rehabilitation work needed and prospective purchasers need to submit bid to pay for this work. Refuge does not anticipate the need for recurring road maintenance or reseeding after contract closes).

Recurring expenses:

Administration of permit and contract inspection:	\$ 2,500
Cruising and marking timber sale:	\$10,000
TOTAL RECURRING EXPENSES:	\$12,500

Offsetting revenues: Revenues from sale of timber (approximately 500 thousand board feet (mbf) annually), pulpwood, and hogfuel: \$100,000. Revenues received by the Refuge are submitted to the US Treasury. The Refuge benefit would be in any funds coming back to the Station to administer the permits.

The permittee either pays directly or reimburses Service for costs of rehabilitation and monitoring on each sale site.

In kind services (students from Student Conservation Corps natural resources program assisting with cruising) \$2,500

Anticipated Impacts of the Use(s): The following is a brief description of potential impacts. A more detailed impact analysis of this proposed use is contained in the Turnbull NWR Habitat Management Plan/Environmental Assessment (USDI, 1999a). The potential negative impacts of commercial tree harvest include ground disturbance from the use of heavy equipment and disturbance to wildlife from tree harvest activities. Ground disturbance will likely occur when skidding trees to a landing. Impact will also occur at the landing site during log processing and loading. It is expected that between 50-100

acres of the Refuge will be subject to potentially ground disturbing activities annually for the next 15 years. If mineral soils are exposed there is a high probability that these sites will be invaded by exotic plant species such as ventanata (*Ventanata dubius*), cheat grass (*Bromus tectorum*), Canada thistle (*Cirsium arvense*), common mullein (*Verbascum thlaspus*) and dalmation toadflax (*Linaria dalmatica*) unless the disturbed sites are rehabilitated.

Impacts to wetlands can be expected if heavy equipment is allowed to work within the wetland basin or near the wetland edge. This disturbance can increase erosion and sediment transport to the wetland. Increased sedimentation can impact aquatic plant and animal communities including the threatened plant species water howellia (*Howellia aquatilis*).

Some disturbance of wildlife is expected to occur during tree harvest activity, which creates noise in addition to the presence of machinery and people. Some landbirds (songbirds, grouse, owls, and hawks), white-tailed deer (*Odocoileus virginianus*), Rocky mountain elk (*Cervus elaphus*), and coyotes (*Canis latrans*) are expected to avoid areas of high activity. These species will readily move into these sites after the disturbance is removed. This level of activity is expected to occur on less than 5% of the Refuge at any given time. Foliage roosting bats such as the hoary bat (*Lasiurus cinereus*) and the silverhaired bat (*Lasionycteris noctivagans*) may be dislodged from roost trees if tree harvest occurs during the summer months. Tree harvest activities occurring during the nesting season can directly impact both ground and foliage nesting birds.

Cavity nesting birds may be impacted if snags or dead top trees are removed. Because the use of mechanized fellers is required, operations can occur near large snags without violating Occupational Safety and Hazard Administration rules. No snags will to be cut if they measure 8" d.b.h or larger.

This use may impact threatened and endangered species, including Spalding's silene and bald eagle. Impact to the silene populations are expected to be minimal. Disturbance impacts to the bald eagle would be occur but would be of a temporary nature. See the Turnbull NWR Habitat Management Plan/Environmental Assessment (USDI, 1999) for further discussion of the effects of this use on threatened and endangered species.

Anticipated Impacts of the Use within the Proposed Expansion Area: If and when the Refuge acquires land within the expansion area, there could be opportunities for compatible forestry operations. Due to the similarity of species and habitats with current Refuge owned lands, this use would be anticipated to have impacts similar to those described for current Refuge owned lands. If the Refuge manager determines that those opportunities would substantially change the conditions under which this use was found compatible, or that there is new, substantive information regarding the effects of the use, this CD would need to be re-evaluated.

<u>Public Review and Comment</u>: Public review and comments will be solicited in conjunction with the CCP/EA in order to comply with the National Environmental Policy Act and with Service policy.

		•	•	•
<u>Detern</u>	nination :			
t	Jse is Not Compatible			
<u>X</u>	Use is Compatible With Following Stipulations			

# **User Stipulations**:

# Equipment:

- Unless approved in writing in advance by Refuge Manager only high flotation rubber tired equipment will be permitted.
- Only rubber tired Forwarders may be used.
- Metal tracked vehicles may be used at the landings and along existing roads with the prior approval of the Refuge Manager.
- Under no circumstances shall oil, grease, fuel, de-greasers or other hazardous chemicals be dumped, buried, or otherwise disposed of in the treatment unit or elsewhere in the Refuge.

# Ground disturbance, roads and landings:

- Harvesting and heavy equipment use will be limited to periods of time when soils are either frozen or soil moisture is just enough to cushion the ground but not be either soggy nor powder dry. Manager will make the determination whether the ground conditions are right for operation.
- Trees will be skidded by lifting the butt-end off the ground to minimize ground disturbance.
- New road construction will not be allowed within the unit.
- Existing road access will be improved as specified in the SUP, if necessary for specified harvest and haul equipment so that road surface degradation can be avoided.
- Landings will be of the minimum size required and shall not encompass more than 5 acres of the unit.
- Service will comply with current policies and procedures related to cultural resource protection and perform mitigation required through cultural resources review.

#### Sensitive Resource Protection:

- Limited tree harvest activities will be allowed during the peak of the spring/summer breeding season to avoid impacts to roosting bats and ground and foliage nesting birds. Determination will be made by the Refuge manager as to location and quantity of harvest allowed during this period.
- No snags or dead top trees capable of housing cavity-using wildlife will be removed (snag / dead top trees > 8 inches d.b.h. shall be retained).
- Heavy equipment will not be allowed within 25 yards of a wetland.
- Any trees cut within 25 yards of wetlands must be manually fallen away from the wetland and cabled outside the buffer before skidding.
- Heavy equipment will not be used on large exposed rock outcrops.
- All open steppe areas except those identified as potential landing sites will be avoided during skidding operations to minimize disturbance to shallow soil areas.
- Known cultural resource areas will not be disturbed. Contracts would be designed to avoid known cultural resource areas. If new cultural resource sites are discovered during contract activities, contract modification would be undertaken to avoid further ground disturbance in the area.
- Excessive disturbance of wildlife, and disturbance to sensitive areas and cultural resources shall result in permit suspension.

#### Rehabilitation:

- All soil surfaces disturbed by harvest operations shall be restored to their natural surface contours and re-seeded with native seed mixes upon completion of harvest operations.
- Rehabilitation of disturbed areas by replacement of topsoil and re-seeding with native species will be required of all timber operators.

Administrative Stipulations:

- The Refuge will provide the permittee with maps of wetland and other sensitive areas (cultural or historical).
- Monitoring provided by the permittee will be completed on all treatment units to assure stipulations are adhered to, expected benefits are realized, and negative impacts fall within the range anticipated.

Justification: The use of commercial tree harvesting contributes to the System mission and the purposes of Turnbull NWR by helping to restore the Refuge's ponderosa pine forests to historical conditions of widely spaced, large diameter trees and by reducing the encroachment of pine trees into aspen riparian areas. It also supports the National Fire Plan in reducing hazardous fuel loads on federal lands. As detailed in the HMP, the Refuge's forests are in poor condition due to past logging, grazing and fire suppression. Current conditions are ripe for catastrophic loss to insects, disease, and/or fire. While fire was the primary natural disturbance that maintained healthy historic forest conditions on the Refuge, a combination of commercial tree harvesting, firewood cutting, and prescribed fire is needed to address today's current forest conditions, air quality and human safety concerns, and resource protection needs.

Commercial tree harvesting may also contribute to the mission of the NWRS and purposes of the Refuge by improving wetland habitat conditions for the threatened plant species water howellia. The hydrologic regime of many small wetlands that are habitat for water howellia have been altered through changes in the density of coniferous forest cover in local watersheds. Reduction of coniferous forest cover and restoration of deciduous riparian vegetation should increase water yields through decreased transpiration and interception of precipitation (Gifford et al. 1984). Restoration of riparian deciduous vegetation and increasing water yield in Refuge watersheds will increase the amount of available *Howellia* habitat by restoring the natural hydrology of Refuge wetlands.

# **Mandatory Re-Evaluation Date**

	Mandatory 15-year Re-Evaluation Date (for priority public uses)
X	Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses
<u>NEPA</u>	Compliance for Refuge Use Decision (check one below):
X	Categorical Exclusion without Environmental Action Statement Categorical Exclusion and Environmental Action Statement Environmental Assessment and Finding of No Significant Impact Environmental Impact Statement and Record of Decision

#### **Literature Cited:**

- Gifford, G. F., W. Humphries, and R. Jaynes. 1984. A preliminary quantification of the impacts of aspen to conifer succession on water yield. II. Modeling results. Water Resources Bulletin 20 (2):181-186
- USDI Fish and Wildlife Service 1999. Habitat Management Plan, Turnbull National Wildlife Refuge. Cheney, Washington.
- USDI Fish and Wildlife Service. 1999a. Environmental Assessment for the Habitat Management Plan, Turnbull National Wildlife Refuge. Cheney, Washington.

# E.9 FIREWOOD COLLECTING COMPATIBILITY DETERMINATION

<u>Use</u>: Firewood Collecting (Alternative 3)

**Refuge Name:** Turnbull National Wildlife Refuge, Spokane County, Washington

# **Establishing and Acquisition Authorities:**

- Executive Order 7681, dated July 30, 1937
- Migratory Bird Conservation Act [16 U.S.C. 715-715d, 715e, 715f-715r]
- Refuge Recreation Act as amended (16 U.S.C. 460k-460k-4)
- Fish and Wildlife Act of 1956, as amended [16 U.S.C. 742a-742j, not including 742l]

#### **Refuge Purpose(s):**

- "... as a Refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 7681, dated July 30, 1937)
- "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (16 U.S.C. 715d [Migratory Bird Conservation Act])
- "... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ..." (16 U.S.C. 460k-1) ... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ... 16 U.S.C. 460k-2 (Refuge Recreation Act (16 U.S.C. 460k-460k-4), as amended).
- "... for the development, advancement, management, conservation, and protection of fish and wildlife resources ... "(16 U.S.C. 742f(a)(4) ... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ... 16 U.S.C. ¤¤ 742f(b)(1) (Fish and Wildlife Act of 1956).

<u>National Wildlife Refuge System Mission</u>: The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee])

<u>Description of Use</u>: The use involves public firewood salvage following Refuge forest management practices. The purpose of providing firewood to the public is to assist the Refuge in cleaning up non-commercially thinned ponderosa pine slash prior to running a prescribed fire through the stand. Removal of downed trees will reduce the fire intensity and improve the efficiency of the prescribed burn. Densely stocked ponderosa pine stands and heavy fuel loading within the Refuge creates a fire hazard. Forest management practices implemented under the Habitat Management Plan (USDI 1999) prescribe removal of excess fuels to re-establish historical pine densities that existed prior to the suppression of wildfire in this region.

Special Use Permits will be issued by the Refuge Manager within active forest management units where non-commercial thinning practices have been employed. Firewood permits for a minimum of two and a maximum of four cords of wood would be issued to the general public to salvage downed wood from Refuge thinning practices. Permits will be issued for specific project sites within one year of a thinning practice. Permittees will be assigned a specific period in which to collect the wood. Permittees will be allowed to drive their vehicles to the salvage site and cut up downed trees (with chainsaws or hand saws) and remove the slash from the site. Only recently cut small diameter trees, the vast majority under 8" in diameter, will be allowed for firewood collection.

The firewood shall be used for personal use or charity and cannot be sold for profit. Firewood permits will usually be issued August through December. Permittees are allowed a minimum of two and a maximum of four cords at an administrative fee of \$10/cord. Fees will be adjusted as administrative costs increase.

This use is not defined as a wildlife-dependent recreational use under the Improvement Act.

<u>Use Within the Proposed Expansion Area:</u> Chapter 2 of the draft CCP/EA identifies areas in which the Service would seek to acquire land from willing sellers outside of the current approved boundary [proposed Refuge expansion area]. Some of these lands probably provide firewood collection, however there are no public firewood sites known at this time.

#### **Availability of Resources:**

One time expenses:	N/A
Recurring expenses: Administration & compliance inspection of Permits: TOTAL RECURRING EXPENSES:	\$1000 \$1000
Offsetting revenues: (permit fees)	\$ 600

<u>Anticipated Impacts of the Use(s)</u>: Some wildlife disturbance would occur as a result of people accessing forested stands to collect firewood. Most of the environmental impacts will be incurred during the actual thinning operation and not the salvage of firewood. Firewood salvage by the general public

will however cause temporary disturbance to wildlife in the area. Firewood collectors generally use chain saws, which will cause high decibel localized noise. See the discussion of anticipated impacts in the commercial timber harvest compatibility determination for expected kinds of disturbance impacts caused by chainsaw noise, especially temporary wildlife movement away from the cutting area.

Use would be seasonal, usually August-December. There may be some impact from any illegal off-road vehicle travel. With the use of chainsaws there is the chance of a spark causing a fire. Uncontrolled fire in any of the Refuge habitats can have catastrophic impacts. Therefore precautions will be taken to reduce any chance of fire in the firewood salvage areas (see stipulations).

Loss of large woody debris to the ecosystem is not anticipated to affect fish and wildlife habitats. Only small diameter material will be allowed for collection. Streams are rare at Turnbull. Wildlife species utilizing large wood generally prefer larger material than that which will be removed.

This use may impact threatened and endangered species, including Spalding's silene and bald eagle. Impact to the silene populations are expected to be minimal. Disturbance impacts to the bald eagle would be occur but would be of a temporary nature. See the Turnbull NWR Habitat Management Plan/Environmental Assessment (USDI, 1999a) for further discussion of the effects of this use on threatened and endangered species.

Anticipated Impacts of the Use within the Proposed Expansion Area: If and when the Refuge acquires land within the expansion area, there could be opportunities for compatible firewood collecting. Due to the similarity of species and habitats with current Refuge owned lands, this use would be anticipated to have impacts similar to those described for current Refuge owned lands. If the Refuge manager determines that those opportunities would substantially change the conditions under which this use was found compatible, or that there is new, substantive information regarding the effects of the use, this CD would need to be re-evaluated.

<u>Public Review and Comment</u>: Public review and comments will be solicited in conjunction with the CCP/EA in order to comply with the National Environmental Policy Act and with Service policy.

	_ Use is Not Compatible
X	Use is Compatible With Following Stipulations

# **Stipulations Necessary to Ensure Compatibility:**

User stipulations:

**Determination**:

- Firewood collecting will only occur under a Special Use Permit and in areas designated by the permit.
- Only downed trees and branches may be taken, size not to exceed 8" diameter. Standing trees, live or dead, will not be cut.
- There will be no off-road vehicle travel allowed.
- Chainsaws must have spark arresters and users must have a fire extinguisher available.
- No cutting would be allowed on high or extreme fire danger days. Firewood collectors are responsible for contacting Refuge Manager to determine the fire danger rating during each visit.

Administrative stipulations:

- Firewood collecting is to be used only to support Refuge forest management practices in the support of Refuge purposes, goals, or objectives and not for economic purposes.
- There will be an administrative fee charged for the SUP.
- Compliance inspections will be undertaken by the Service from time to time.

<u>Justification:</u> Firewood collecting contributes to the mission of the NWRS and the purposes of Turnbull NWR by reducing high-intensity fire danger that might damage habitats and kill wildlife. This use complements forest thinning and prescribed fire projects by removing slash. It is a tool to reduce hazardous fuel loading in forest management units as well as insect and disease or blow down areas of Refuge forests. It also results in less smoke being generated during prescribed burning activities and there is a community benefit to allowing public to collect firewood.

Mandatory Re-Evaluation Date (provide month and year for	"allowed" uses only):		
Mandatory 15-year Re-Evaluation Date (for priorit X Mandatory 10-year Re-Evaluation Date (for all use			
NEPA Compliance for Refuge Use Decision (check one belo	ow):		
Categorical Exclusion without Environmental Action State Categorical Exclusion and Environmental Action State X Environmental Assessment and Finding of No Signific Environmental Impact Statement and Record of Decision	ement cant Impact (USDA 1999a)		
Literature Cited:			
USDI Fish and Wildlife Service. 1999. Habitat Management Plan, Turnbull National Wildlife Refuge. Cheney, Washington.			
USDI Fish and Wildlife Service. 1999a. Environmental Asser Turnbull National Wildlife Refuge. Cheney, Washing			
Signatures:			
Prepared by (signature)	Date		
Refuge Manager/Project Leader Approval (signature)	Date		
Concurrence			
Refuge Supervisor (signature)	Date		
Regional Chief, National Wildlife Refuge System (signature)	Date		